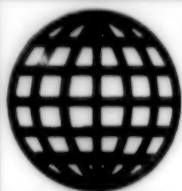


JPRS-TAC-93-018
7 September 1993



**FOREIGN
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JPRS Report

Arms Control

Arms Control

JPRS-TAC-93-018

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Cargo Ship Yinhe Accused of Carrying CW Precursors to Iran

Foreign Ministry Statement

*OW1308160093 Beijing XINHUA in English
1548 GMT 13 Aug 93*

[Excerpts] Beijing, August 13 (XINHUA)—The Chinese cargo ship "Yinhe" was certified not to be carrying a shipment of chemical weapons after an earnest investigation by the Chinese side, a senior official from the Chinese Foreign Ministry said here today.

Qin Huasun, assistant foreign minister, made the remark today when interviewed by David W. Dyar, a Beijing-based reporter for the Voice of America. [passage omitted]

He noted the Yinhe is a regular cargo ship of China with a fixed route, that is, from the Xingang Port of Tianjin, to Shanghai, Hong Kong, Singapore, Jakarta, Dubai, Damman and Kuwait. The ship did not depart from Dalian, nor was it destined for Iran's Bandar Abbas Port.

Though the ship did carry 24 containers destined for Iran, the cargo was actually stationery, metals and machine parts. All these and 80 percent of its shipment were scheduled to be unloaded at the Dubai port for transshipment, he said, adding that there was no container wharf at all at Bandar Abbas Port, so it would be impossible for the ship to unload there.

According to serious and earnest checks by the relevant departments of the Chinese side on the ship's manifest and its bill of lading, confirmed by the owner of the cargo, there is neither thiodiglycol and thionyl chloride on the ship, nor is there a bill of lading for them as the U.S. side claimed, the Chinese official stated.

The Chinese side has presented to the U.S. side results of the above investigations and demanded that the U.S. side stop all its interruptive actions, clarify the facts to the countries concerned, clear up the consequences caused by the wrong information, and ensure that the Chinese ship reaches her scheduled ports and unload, he said.

In order to solve the problem at an earlier date, the Chinese side had proposed to ask a third party to check the cargo after unloading.

However, the U.S. side did not believe the results of these investigations, he said. They stuck to the so-called "information" and has caused the issue to remain unresolved until now.

For this, the Chinese side has lodged a strong protest against the U.S. side and demanded that the U.S. side be held responsible for all consequences arising from its action, and compensate for the huge economic losses suffered by the Chinese side.

The official noted that as a signatory country of the chemical weapons convention, China is very serious about the international obligations it shoulders.

It does not produce or possess chemical weapons, nor does it export the chemicals which can be used in the making of

chemical weapons. For that purpose, he said, the Chinese government has very strict administrative measures for the export of chemicals—they are even tougher than the prevailing international ones.

The two chemicals mentioned by the U.S. information are prohibited by formal decrees by the Chinese Government from export to the regions concerned, Qin added.

As for the details of the Yinhe's stranding, he said, the U.S. side cannot deny the fact that it has severely interrupted the routine voyage of the Chinese vessel. According to reports by the ship's captain, an American warship has been tailing it since August 2 at a distance of 15 nautical miles, and in the meantime, U.S. military planes have been hovering over the vessel, conducting surveillance and photographing.

To avoid the deterioration of the situation, he said, the Chinese side ordered the ship to stop its voyage on August 3 temporarily. Since then, the ship has been under constant surveillance by two American warships and military planes. The ship now lies adrift on the high sea, 26 degrees 15 minutes north latitude, 56 degrees 54 minutes east longitude, at the east entrance of the Strait of Hormuz, for the waters there are relatively calm and safe to the ship.

"The ship is a regular cargo liner, whose route didn't include a stop at any Iranian port. The U.S. side is in fact aware of this. We don't understand what the U.S. motives are in spreading rumors that the ship is bound for Iran," Qin said.

Jiang Zemin: No CW Aboard

*OW1808121693 Tokyo KYODO in English 1156 GMT
18 Aug 93*

[Text] Beijing, Aug. 18 KYODO—President Jiang Zemin told a delegation of nine U.S. Congressmen on Wednesday [18 August] that a suspect Chinese cargo ship is not carrying ingredients used to make chemical weapons.

"General Secretary (Jiang) said there are no chemical weapons aboard that ship," Congressman Sam Gibbons told reporters after talks with the Chinese president, who also serves as Communist Party boss.

Jiang was referring to the Yinhe, a cargo ship which has been afloat in the Gulf of Oman for nearly 2 weeks and which the United States has accused of carrying two banned substances used in chemical weapons.

The shipment is believed to be bound for Iran.

The Chinese side has adamantly denied the accusations and protested against U.S. interference in the matter, calling the U.S. "A self-appointed global policeman."

The U.S. first brought the matter to Chinese attention during the last week of July and has since denied that it has interfered with the progress of the ship, while admitting that the U.S. Navy is monitoring its movements.

Last week the United Arab Emirates denied the ship docking privileges at its ports, which are main transfer points for Iranian-bound containers.

The Chinese side claims that the Iranian-bound containers are carrying nothing more than paper goods, hardware and machine parts and say that the U.S. has refused a third country inspection.

The controversy has highlighted U.S. determination to uphold internationally recognized weapons proliferation agreements, like the chemical weapons convention, which China recognizes.

Last month the U.S. accused China of violating the guidelines of the missile technology control regime by selling missile components to Pakistan.

Jiang, the highest Chinese leader to comment on the chemical weapons controversy, made the statement to the delegation which is comprised of trade subcommittee members of the House of Representatives' Ways and Means Committee.

The members arrived in Beijing on Sunday for a 5-day visit.

PRC-Affiliated Media Criticizes U.S.

*HK1808095193 Hong Kong WEN WEI PO in Chinese
18 Aug 93 p 2*

[Editorial: "Excuse for Intercepting Merchant Ship Is Absurd"]

[Text] Eight days after leaving Xingang on its way to Kuwait, China's cargo liner the Yinhe was shadowed, interfered with, and photographed by U.S. warships and aircraft. In the meantime, the United States made many complaints to China, charging that the Yinhe cargo liner is carrying thiodiglycol and thionylchloride, chemical weapons materials, to Iran. The United States has also made the unreasonable demands that first, the Chinese side call the Yinhe back; second, it allow an inspection by U.S. personnel on board the ship; and third, the United States be allowed to take action to stop the chemicals from falling into inappropriate hands.

The Chinese side has responded to the unreasonable U.S. acts very solemnly. The first step was that it has checked and inspected the Yinhe's shipping bill, bill of lading, list of cargo owners, and the port of unloading; and has informed the U.S. side of results of the inspections. Moreover, in an interview with a Voice of America reporter, Assistant Chinese Foreign Minister Qian Huasun also mentioned details of the Yinhe's cargoes.

The Chinese side's second step was that the Chinese merchant ship continued on its journey to the original port without fearing the threat of U.S. warships and aircraft.

The Chinese side's third step was to lodge a protest through diplomatic means, demanding that the U.S. side be held responsible for all consequences caused, including repaying the enormous economic losses suffered by the Chinese side. The Chinese side has made a positive proposal that in order to eliminate the consequences caused by incorrect intelligence, all cargoes be inspected by a third party after the Yinhe has unloaded them at the port to see whether the ship contains thiodiglycol and thionylchloride as alleged by U.S. intelligence.

The Chinese side's attitude and way of handling the matter is fair and reasonable. If the United States respects international law, it should handle the matter in keeping with international practice. If not, it defies laws. If the United States' sea-bully logic stood at a time when it claims its act conforms to international law, then the world order would be completely disrupted and any country could follow suit by falsely charging that the merchant ships of another country carry contraband goods and intercept them with warships and aircraft so that they could not enter their ports of destination and they could only return to their ports of departure. By returning to the ports of departure, these countries would have "no proof whatsoever" and would suffer enormous losses and could not vindicate the unredressed injustice. If we allowed such a matter to become legal, then the world would only become one of sea bullies and the sailing right of regular merchant ships would be infringed on and free trade would be trampled on. This U.S. practice shows that the United States wants to obtain the authority of "world judge" and "world policeman" on the excuse of the Yinhe incident, and that as long as U.S. intelligence says you are wrong, you are wrong. This is the greatest of dictatorship and the dictatorship of a superpower over numerous other Third World countries. It is, as we can say, extremely ironic that the United States, which mentions "democracy" every day, could have perpetrated this imperious and arbitrary act.

How on earth did the United States get the intelligence? How credible is it? China has made a solemn and just refutation that the so-called "intelligence" of the U.S. side is all erroneous. First, it has a mistaken idea of what type of ship the Yinhe is and is mistaken regarding its navigation route. The Yinhe is a container ship, not a bulk cargo ship, and it cannot reach a port without a container terminal. Iran's Bandar Abbas has no facilities to load and unload containers, whereas the "intelligence" says the Yinhe's cargo is being transported to Bandar Abbas. The Yinhe is a regular ship whose route is Xingang—Shanghai—Hong Kong—Singapore—Jakarta—Dubai—Ad Dammam—Kuwait. But the "intelligence" says the ship departed from Dalian for Bandar Abbas. It did not name the ports of departure and destination correctly. Third, the "intelligence" about the loaded commodities is most erroneous. Eighty percent of the containers on board the ship are being shipped to Dubai, 24 containers of which are stationery, metals, and machine parts to be unloaded at Dubai.

If the United States wants to find out the truth, it should allow facts to verify whether its intelligence is correct or not and should allow the Yinhe to follow its course right to Dubai, the United Arab Emirates, and then let a third party examine the shipping list and cargo to see whether they contain thiodiglycol and thionylchloride. But the United States is impervious to reason and has put pressure on Dubai so that they did not allow the Yinhe to sail to the port. The United States has also used warships to shadow and interfere with the ship with the result that it could not obtain supplies and ran out of water and oil. Moreover, it demanded the ship sail back to China. The United States did the evil and covered it up simultaneously. If it allows the

Yinhe to unload its cargo in the Middle East and then has them inspected by a third party, the U.S. "intelligence" will go bankrupt

The Yinhe incident is a farce staged by U.S. politicians in an attempt to vilify China. Not happy at the failure to obstruct China from winning as host country for the Olympic Games resulting from recent just criticisms from the world and at home, they fabricated the Yinhe incident. Now that China has solemnly put forward a proposal for the resolution of the issue, the United States should stop obstructing the Yinhe from berthing at Middle East ports, justly and reasonably resolve the issue, and prevent the matter from worsening.

Tehran Views Situation

NC1408074293 *Tehran Voice of the Islamic Republic of Iran First Program Network in Persian 0345 GMT 14 Aug 93*

[Commentary by News Commentaries Group]

[Text] Following the interception of a PRC vessel by U.S. warships, new political differences have erupted between the PRC and the United States, to which no clear solution seems to be in sight.

U.S. warships surrounded a PRC vessel at the entry to the Persian Gulf and blocked its passage. In justifying its action, the United States claimed that the PRC vessel was carrying chemical materials that could be used in the manufacture of chemical weapons. The PRC assistant foreign minister rejected U.S. allegations and described the contents of the consignment as writing materials, some metals, and machinery components.

While the U.S. secretary of state stressed that there is reliable information to prove that the Chinese vessel is carrying chemical materials and he mentioned inspection of the vessel, the PRC assistant foreign minister stressed the absence of any documentary or physical evidence to the effect and said: It is possible that the U.S. secretary of state is not well-informed of the facts pertaining to the PRC vessel.

The U.S. act of waylaying the PRC vessel based on claims that it was carrying chemical materials that can be used to manufacture chemical weapons happened at the same time as the convocation of the disarmament conference in Geneva. One of the main debates of the conference was the issue of chemical disarmament and the formulation of a convention to limit, stockpile, or use chemical weapons.

Political experts believe that the U.S. action at this juncture can be construed as an effort on the part of the United States to impose the views of the Western clique propounded at the disarmament conference. With this action, the United States seeks to drive home the impression that if the positions of the West are not given adequate importance, it will resort to force and military strength even in the event of a lack of consensus at the chemical disarmament convention.

At present, Western countries are stressing in all talks on the subject the need to limit chemical weapons. This limitation includes preventing the entry of chemical materials into

developing countries. While accepting the principle of the dismantling and elimination of chemical weapons, developing countries reject limitations on chemical materials, as they interpret this as a restriction on their chemical industries. Efforts to resolve this difference of opinion continue.

Since resolving this difference of opinion is linked to generating a greater sense of trust between the two groups of countries, actions such as the U.S. interception of the PRC vessel only result in mistrust by countries. This, in turn, hinders the attainment of an international consensus on chemical disarmament.

U.S. Criticized for 'Harassing' Freighter

HK2508072093 *Hong Kong HSIANG KANG SHANG PAO in Chinese 25 Aug 93 p 9*

[Article by Kao Sung [7559 2646]: "The United States Must Stop Harassing Cargo Ship, the 'Yinhe'"]

[Text] Due to repeated obstruction by the U.S. side, the "Yinhe incident" has remained unresolved for more than a month. Since the ship cannot sail to its destination or berth at a port, it is running out of oil and water, seriously affecting the safety of the ship itself and its crew.

By incorrect intelligence, the U.S. side has falsely accused the "Yinhe" of carrying the chemical weapon materials thiodiglycol and thionylchloride. Relevant Chinese departments have seriously checked the shipping bills and bills of lading and found that the ship does not have the above two chemicals as alleged by the United States. Moreover, through diplomatic channels, the Chinese side has told the U.S. side that the 24 containers carried by the Yinhe in shipment to Iran contain mainly stationery, metals, and machine parts, which are completely removed from chemical weapon materials. The Chinese side has also suggested that a third party inspect the cargoes after their unloading at a port. Sticking stubbornly to the so-called "intelligence," U.S. Secretary of State Christopher even said that the United States is determined to search this Chinese ship, the "Yinhe."

These practices have completely exposed the peremptory U.S. acts of piracy. They are the expression of lawlessness and unreasonableness and will surely be strongly criticized by world justice and right.

As a signatory to the Convention on the Banning of Chemical Weapons, China is very serious about its share of international obligation. China does not produce nor possess chemical weapons nor export chemicals used for the manufacture of chemical weapons. China has always enjoyed high international prestige and is very responsible regarding the promises it has made. The so-called U.S. "intelligence" is a sheer fabrication, a serious insult to the Yinhe, and it is difficult to tolerate.

The unreasonable U.S. acts have seriously violated international practice regarding safe navigation on the high seas. In addition, Secretary of State Christopher has said that the United States has to search the ship. This is in disregard of the sovereignty of a sovereign country. Relying on its warships and aircraft, the United States makes trouble

everywhere and infringes on and interferes with the sovereignty of others. Its unreasonable and high-handed practices have given rise to dislike and opposition from peace-loving people around the world. If relevant U.S. authorities continue to stick stubbornly to their wishes, they will surely end up in a bad way.

It is strongly hoped that the U.S. side will stop harassing the "Yinhe" as soon as possible and ensure there are enough supplies of oil, water, and food on board the ship so that navigation, and the crew, can be safe. Otherwise, the U.S. side will have to be held totally responsible for all consequences arising from the incident.

'Yinhe' Prevented From Unloading

OW2808000293 Beijing XINHUA Domestic Service in Chinese 1409 GMT 27 Aug 93

[By reporter Chen Wenru [7115 2429 1172]]

[Text] Damman, 27 Aug (XINHUA)—It has been reported that a Chinese inspection team on the "Yinhe" cargo-liner incident, headed by Sha Zukang, deputy director of the Department of the International Organizations and Conferences under the Chinese Foreign Ministry, has arrived in Damman, Saudi Arabia, and has held talks with Saudi representatives. To our knowledge, the U.S. side, as technical advisers to Saudi Arabia, also took part in the talks.

The Chinese inspection team, together with representatives from Saudi Arabia, will inspect goods carried by the "Yinhe," which is owned by the China Ocean Shipping Company. The purpose of the joint inspection is to discover if the ship is carrying thiodyglycol and thionyl chloride, chemicals the Chinese Government has forbidden for export to some regions.

The "Yinhe" cargo-liner entered the Gulf of Oman on 2 August. The United States stopped [zu zhi 7091 2972] the ship from unloading cargo in port according to the original schedule on the grounds that the ship was carrying the aforementioned two kinds of chemicals. To date, the "Yinhe" has been drifting on the high seas for 21 days, causing extreme difficulties to the life of its crew.

It has also been reported that the responsible person of the Chinese inspection team Sha Zukang, and Li Jinren, Chinese charge d'affaires ad interim to Saudi Arabia, today boarded the "Yinhe" to call on the crew.

China Seeks To Export First Satellite by 2000

OW2708103393 Beijing XINHUA Domestic Service in Chinese 0852 GMT 24 Aug 93

[By reporter Xu Jingyue [1776 0079 6460] and correspondent Li Weijia [2621 4850 0857]]

[Text] Beijing, 24 August (XINHUA)—A spokesman for the China Astronautics Industry Corporation told reporters in Beijing today that since the date when the China Great Wall Industrial Corporation and the Hughes Space and Communications Company issued a joint statement concluding an investigation on the malfunctioning of the Optus B-2 satellite, the first batch of contracts signed by China with foreign countries for its commercial launching services have all

been fulfilled. This marks the first firm step taken by China's space industry forward into the international market and means that China's international commercial launching work has entered a new stage.

This spokesman said: China began its international commercial launching service in the excellent situation of reform and opening up, and the service is an activity suitable for a socialist market economy. When the Chinese Government announced its marketing of the Long March series of carrier rockets on the international market in 1985, this market had actually been monopolized by a handful of space countries. Over 8 years' of struggle and effort, we have successfully fulfilled the first batch of contracts to launch foreign-made satellites and have, from beginning to end, complied with the three agreements signed by the governments of the United States and China, as well as agreements signed by the Chinese Government with the Swedish and British Governments. This has won us trust and praise from our international customers. Although some attempts have been made to obstruct and hinder China's space industry from entering the international market during this period, facts have proven that they have all been in vain.

Speaking on work at this new stage of the international commercial launching service, the spokesman said: Presently, a series of new contracts on international launching services are being implemented, and some contracts are under negotiation. It is estimated that the China Great Wall Industrial Corporation and its commercial cooperation partners—the China Academy of Launch Vehicle Technology and the Department of China Satellite Control Systems—will launch about 25 to 30 foreign-made satellites of various kinds between 1994 and 2000. Thus, the production of the Long March series of carrier rockets will turn from single production to small-batch production, which has a certain economy of scale, and is therefore becoming an industry gradually. In the meantime, the China Research Institute of Space Technology will strive to raise its level of satellite technology and the satellite performance/price ratio with a view to exporting China's first satellite by the year 2000. At that time, China will be able to launch satellites for its foreign customers as well as offering satellites in designated orbits, with China-built carrier rockets and satellites, and China's space industry will become even more vigorous in the international market for commercial launching services.

This spokesman noted: China's development of its space technology industry, including carrier rockets and spacecraft, is mainly aimed at meeting the needs of the national economy, the modernization of national defense, and the growing demands of the people's material and cultural life. With its additional strength, China's undertaking of international commercial launching services and satellite cooperation is a supplementary benefit to the international market, offering a new choice for international customers. In the meantime, it is also China's responsibility and obligation to bring benefits to mankind through the development and use of resources in outer space for peaceful purposes.

Long March 3A Carrier Rocket To Make Test Flight
HK1808001493 Hong Kong WEN WEI PO in Chinese
16 Aug 93 p 2

[Dispatch: "China's New Generation of Carrier Rockets To Deliver Satellites in the First Half of Next Year"]

[Text] Beijing, 15 Aug (WEN WEI PO)—The Chinese Research Institute of Carrier Rockets recently reported that the Long March 3A Thrust Carrier Rocket, researched and made by China and scheduled to undergo its first test flight soon, is technologically advanced and very adaptive, boasts great delivery performance, ranks first in China's domestic carrier rockets, and meets the world's advanced standards.

The Long March 3A, a key state project, is a new style of liquid-propelled rocket based on the redesign of the three stages of Long March 3 and will be China's major delivery vehicle around the year 2000. It has a delivery capacity of up to 2.5 tonnes into synchronous orbit, which is greater than the Long March 3's 1.4 tonnes. It can be launched into orbits that are synchronous with solar and lunar movements. At present, it has the greatest delivery capacity among China's rockets.

In designing the Long March 3A, the Chinese Research Institute of Carrier Rockets employed many new technologies, the most important of which were in four key areas of design. These sophisticated technologies are all first employed around the world and lead the development in the field, showing that China's carrier rocket technology has leaped to a new stage and has joined the ranks of leading countries in the field.

The Long March 3A is a prototype with great development potential. Two new rockets can be formed by mounting two or four more liquid-propelled boosters on the core stage of Long March 3A, which then can fulfill the requirement of launching heavy communications satellites at the low and geo- and solar-synchronous orbits, and thus can meet the demand of various domestic customers. Its service will make China's Long March carrier rocket series more systematic, practical, commercially viable, and internationalized, and will help the series gain a more solid position in domestic and international satellite launch markets.

It is understood that in the first half of next year, the Long March 3A will send a new-generation, large-capacity, and long-lifespan communications satellite into space.

REGIONAL AFFAIRS

Russian, Ukrainian Negotiators Argue in Stockholm**Kozyrev Cited on 'Breakthrough' in Talks**

WS1608152893 Kiev Ukrayinske Radio First Program Network in Ukrainian 1000 GMT 15 Aug 93

[Text] Speaking at a news conference in Stockholm on 15 August, Russian Foreign Minister Andrey Kozyrev said: There has been a breakthrough in the Russian-Ukrainian negotiations on the dismantling and elimination of nuclear arms deployed on Ukrainian territory. An appropriate treaty will probably be signed within the next couple of days. According to Kozyrev, this document has been drafted as a result of negotiations between Presidents Boris Yeltsin and Leonid Kravchuk.

Denial of Readiness to Sign Pact

LD1608173393 Hamburg DPA in German 1651 GMT 16 Aug 93

[Excerpt] Kiev (DPA)—Ukrainian Defence Minister Konstantyn Morozov and Foreign Minister Anatoliy Zlenko have denied that there is a readiness to sign a treaty with Russia on the nuclear arms issue. They said this following a meeting with German Defense Minister Volker Ruehe in Kiev today. Russian Foreign Minister Andrey Kozyrev said in Stockholm yesterday that there was such readiness in Ukraine.

Zlenko told DPA: "It would be too early to speak of an agreement." Morozov said there have been no official talks with Russia on this issue. Russia and Ukraine are in dispute about the dismantling and storage of Ukrainian nuclear missiles, which are to be disarmed. [passage omitted]

Kiev Says Disarmament Statement 'Premature'

WS1808071893 Kiev Ukrayinske Radio First Program Network in Ukrainian 1900 GMT 17 Aug 93

[Text] The press center of the Ukrainian Foreign Ministry has commented on Russian Foreign Minister Kozyrev's statement in Stockholm. Andrey Kozyrev has claimed that our states are to sign an agreement on nuclear disarmament in the nearest future. The Ukrainian Foreign Minister considers this statement premature. A process of Ukrainian-Russian negotiations at the level of experts is currently under way. Consultations and a search for common solutions are continuing, the standpoints of the sides are being coordinated. The press center has underlined that one may hope for signing a bilateral agreement only after the completion of this work.

Russian Negotiator Claims Agreement

LD2008112493 Moscow Radio Rossii Network in Russian 0322 GMT 20 Aug 93

[From the "Radiostudio Slavyanka" program of the Russian Defense Ministry]

[Text] Russia and Ukraine have reached mutual understanding on the question of the dismantling of nuclear

weapons stationed on Ukrainian territory. Viktor Mikhaylov, Russia's minister of nuclear power engineering, a member of the Russian delegation at the talks in Kiev, said that the sides had reached agreement on the basic principles for compensation to Ukraine for the dismantling and for the nuclear materials.

The Russian minister categorically rejected the possibility that Ukraine could become a nuclear power in the near future. As if to confirm Viktor Mikhaylov's words, Ukraine's Defence Ministry press service has distributed a statement that states in essence, that the Ukrainian military are not elaborating, and are not trying to gain possession of the codes to control the strategic nuclear forces stationed on the territory of the republic.

Nuclear Development Facilities Facing Severe Problems**Woes of Nuclear Weapons Labs**

93WC0099A Moscow SEGODNYA in Russian No 40, 6 Aug 93 p 11

[Article by Mikhail Chernyshov: "The Tragedy of Arzamas Will Also Reach Moscow: Nuclear Warheads Cannot Be Goods Sold on the Free Market"]

[Text] So, what will happen if a warhead detonates at your enterprise?

The emissaries of atomgrad think for a long time while searching for a diplomatic response. The list of unrevealed state secrets prevents those who have body and soul entered into the shadow of the first department from being frank. But, finally, having taken a breath, both answer nearly simultaneously: "We would not want to frighten anyone, all the more so, to blackmail anyone. The situation objectively appears to be as follows: nothing will remain of Arzamas-16, but it will reach Moscow ..."

Today not only the dangers associated with the careless handling of nuclear warheads threaten Russia's nuclear cities. The social explosion among those who were at one time called intellectual and the flower of the nation, those who forged, as it was then expressed, "the Homeland's nuclear shield" continues to fester. We have managed to temporarily prevent that explosion. But for how long?

"It is impossible to assert," said Russian Federal Nuclear Center Director Vladimir Belugin, "that we have received less than our rightful share of the leadership's attention. Yegor Gaydar visited us at one time. Viktor Chernomyrdin came. We received the President of Russia in February 1992. The oblast leadership attentively listens to us. Everyone convinces us that Russia needs us. However, the matter does not progress beyond words."

The money that has been allotted to the city systematically "strolls" somewhere and the banks place it into circulation. There was a catastrophic delay with the distribution of salaries. People are only receiving their salaries for June today. The average salary amount is 36,000 rubles. Managers of major subdivisions have less than conductors on railroads.

We are not demanding anything excessive. We need at least financial certainty and an understanding of the prospects. Our product—nuclear warheads—cannot be goods sold on the free market. If the state actually needs us, we need to know to what degree this need extends...

Right now it has become simpler with international contacts. We are meeting with experts of American nuclear centers such as Los Alamos, Livermore, and others. There are more than a dozen of them in America and their annual budget is nearly \$11 billion. Just two centers—at Los Alamos and Albuquerque—receive \$3 billion. But our Arzamas-16 that performs those same functions receives R7 billion, current, totally worthless rubles. We need, not for operations but just for existence, at least three times that amount...

Recently approximately 700 people, primarily young people, have left the city. They are leaving for business where they are obtaining ten times as much than they can earn here. And this flight from the profession is still not the worst variation. Today how can we counter that same Saddam Huseyn whose emissaries have offered to immediately turn over half a billion dollars for just one warhead?..

Our intellectual flowers have opened behind the blank fences of special cities and special centers. The flowers that worked there have been abundantly fertilized with scientific degrees and government awards, increased salary coefficients and supply according to the highest category. And now the thistle of state indifference has overgrown the now never well-groomed hothouse flower beds. Arzamas-16, the Chelyabinsk numbered cities and other secret cities have managed to be in a "pre-strike condition." For the time being, no one can intelligibly explain what this concept means. But the essence is not in the terms. The probability of an "unfortunate incident" in production is increasing due to the loss of skilled specialists, the decline of discipline, and the general confusion.

"Our warheads," said Atomic and Hydrogen Weapons Chief Designer Stanislav Voronik, "have traveled a long path in their development. For example, a warhead that was installed on Korolev's 'semerka' weighed five tonnes. But a current megaton bomb weighs a total of 300 kilograms and that is equivalent to a million tons of TNT. Previously, special people installed detonators only in a so-called 'silver tent'. Today the degree of safety of detonators has immeasurably increased. They do not activate either during an accidental explosion, during fires, or when struck. But nevertheless. It's as if there should also not have been Chernobyl. But irresponsible and incompetent people literally forced the reactor to operate in an explosive regime."

Today they have begun to more frequently transport warheads by rail. Nuclear warhead disassembly problems are arising as a result of disarmament. But disassembly is nearly as complex as the manufacture of warheads. We cannot exclude the possibility of sabotage. And not nearly by hirelings of the "sharks of Imperialism" but of any bitter person who has lost control of himself. Besides nuclear materials, there is a conventional explosive in a warhead.

Firing a round into it will result in a conventional explosion—there will not be a thermonuclear "mushroom" but the pulverization of plutonium will occur. And that is a horribly poisonous substance. And, essentially, we will get a second Chernobyl...

The demographic composition of the atomgrads is drastically changing. The population is aging and experts are talking about the fact that this variation is possible when the weapons will remain but no one will know how to handle them.

They have had to suffer quite a lot for being "God's selected people" and for the privilege of residents of secret cities. As a rule, they sent here specialists from major educational centers—Moscovites, Leningrad residents, and Kiev residents... They selected the most reliable and the most tested "for patriotism." But, according to the irony of fate, they trusted them least of all. A person, who ended up in atomgrad and who obtained "access" automatically became someone who couldn't leave. They did not only not know about the scientific stars of the first magnitude abroad, but even in the neighboring village that is located on that side of the multi-contoured fences and the plowed control-border strips. You could not invite even your closest relatives to visit you, already not talking about your friends. People of Andrey Sakharov's stature could be sent on a trip abroad only with the authorization of the head of state. Such authorizations were very frequently not granted.

In recent years, we have learned that we have dozens of atomic cities that are scattered throughout the country. There are three numbered Chelyabinsk, two Sverdlovsk, two Krasnoyarsk and Penza. The largest of them is Tomsk-7 where there are more than one hundred thousand residents. The smallest is Zlatoust-36. There are a little more than 30,000 residents there. According to data of the current Russian Federation of the Ministry for Atomic Energy Chief Viktor Mikhaylov, a total of approximately 700,000 people live in these cities. There are a total of one million in the sector. A little less than half of them are involved in the industry. Nearly 16%—science, one fifth—builders and, the rest—service spheres. The former Sredmash [Ministry of Medium Machine Building] is frequently called that structural composition of "a state within a state". A closed complex of enterprises exists that is technologically linked to itself. This is the extraction of raw materials, the production of fissionable materials, the manufacture of items from them, reprocessing spent fuel, and the burial of wastes. The appropriate infrastructure that is required for life and work was created at one time along with the enterprises—there are more than 150 of them.

By the will of fate, the author of these lines at one time managed to visit several atomgrads and to even live for a while at these "facilities." I can attest that all of them are as similar to each other as twin brothers. If not for the surrounding landscape—the smooth Urals mountains or the pensive Kazakh steppe—you wouldn't be able to distinguish one from the other. Incidentally, only one atomgrad—Semipalatinsk-21 (Kurchatov) has currently remained outside Russia. Its fate is more than murky. So, all of the cities are distinguished by the simplified planning and by the

standard "Khrushchoby" [Khrushchev slums] five-story apartment buildings. There is a central square with the necessary Officer's Club or something similar. The same types of stores, schools, and kindergartens.

All of the lives of the city residents are tied, as a rule, to one type of production. City residents are allocated private plots for supplying themselves with vitamins. But to a great degree—at least it was until recently—they were tiny plots which, of course, were not capable of supplying a family with fruits and vegetables for an entire year. The state leaders saw their own sense in this stinginess—with an abundance of adjacent free lands. Nothing should divert the scientists from their primary task. But then again, not only scientists, but all remaining inhabitants of the cities.

"They keep repeating over and over again to us all of the time," said Vladimir Belugin, "that we need to go to the West and study management. But an American manager doesn't know a tenth of what a Russian director must do. Where to get the sausage, milk, and potatoes for the Center's workers? How are things with kindergartens? With transportation? With water and heat for apartments? The director is responsible for the regime so that moose and drunkards do not penetrate the barbed wire..."

At one time there was a red stripe system. If a paper with that mark arrived at some enterprise, everything was set aside and our order was fulfilled. That is currently perceived as a legend. They transported underwear by airplane to Moscow, 400 kilometers, to be washed. When the city grew, they built a meat combine nearby. It prepared practically its entire output for us alone. Later, the obkom reduced our share to 70%, it turned out that everyone likes the good products. But later there has been practically zero attention to us...

The atomgrads were founded in 1945-1953. Subsequently they only expanded. For the sake of secrecy, locations for them were selected far from populated areas and busy highways. Sometimes it is said that all of this is the invention of Lavrentiy Beriia who built essentially scientific GULAGs. Not in defense of the vampire was it said that this is nonsense. Read the literature on the realization of the American atomic Manhattan Project or about the creation of the White Sands Missile Test Range—there approximately the same picture is observed: maximum possible isolation of experts from the outside world combined with comfort within the zone. That was the fashion. It was thought that researchers work most productively when they are freed from everyday concerns and if they continuously socialize with each other during work and non-work time.

They say that the Gaydar Government, that consisted primarily of scientific associates of open economic institutions, knew practically nothing about the atomgrads and their difficulties. Therefore, they say, no one was involved with indexing the salaries or with the problems of supply. However, they didn't "forget" to repeal the special deliveries and to assign the task of supplying food to the nuclear workers to the nearest oblast cities in 1992. And we have already heard how they "resolved the problems" there. The Ministry of Medium Machine Building that watched over

the atomic empire has ceased to exist. The new department that inherited its functions was tortuously born over a long period of time. Yes and its capabilities are incommensurably far from those that the Ministry of Medium Machine Building had.

"Our minister went to the premier four times," said Russian Federation Ministry of Atomic Energy Directorate Chief Georgiy Kaurov, "but each time the conversation ended the same way: the government simply does not have any money. Finally the minister broke through to the president. The strictest order was obtained: allocate the money, the minister of finance will track it so that the money is not 'played with' on the way. That's how the social explosion was extinguished. But that is not the method... Do we really need to appeal to the president each time salaries are paid? The main thing that the people insist on is the development of a program in which the status of the atomic cities and their prospects would be clearly defined..."

Although the cities declassified themselves, the regime is being observed based upon inertia. It is a millstone for city residents, impeding the conversion processes and the commercial beginnings, yes and simply contacts with the outside world. A person outside the zone who finds himself in a difficult situation at least has the possibility of choosing. The atomic workers from the special city do not have that possibility. It's hard to imagine that a resident, say, of Trekhgornyy (Zlatoust-36) would find himself employment in nearby Yuryuzana. All Urals cities and villages—even entire opened cities—have traditionally been closed on themselves and on some kind of specific type of production. And what kind of way out did a former graduate of Moscow or Kazan Institute have? To leave for his homeland? But here is an apartment and an established way of life. But there—are long broken off ties and zero chances to obtain housing. A person who has found himself in a trap is capable of the most unexpected actions...

A man who refuses to give his name enters the conversation: "Primarily administrators are participating in this conversation. All of them are speaking correctly but that is only a tenth of the truth. Fear for their chairs compels them to smooth over the corners. I will reveal more: We have at our plant—in this case I have in mind Chelyabinsk-70—interests that I represent, people's fainting spells from hunger at work places have become common. The hospitals don't have medicines, we bring in all we can from nearby Kasy. Here the managers have talked a lot about the patriotism of the specialists who work at the atomic cities and about their unselfishness and devotion to the cause. I am a physicist by profession. In principle I know how to make a nuclear bomb from beginning to end. We have few people like me in Russia, approximately 200. But, you will agree, that is quite a lot. I would not begin to vouch for everyone..."

They initially recalled the atomgrads not at home but in the West when signs appeared that a drain of specialists to countries that are striving to possess nuclear weapons was possible. American congressmen visited the numbered cities one and one half years ago. Then Secretary of State James Baker arrived in Snezhinsk (Chelyabinsk-70) right after

them. The senate expressed its readiness to allocate \$25 million for conversion of atomic production. Germany, Japan, Italy, France, and Great Britain endorsed that project. The sum of the conversion fund was increased to \$100 million. However, due to disagreements the good intentions have also remained on paper. But then again, even realization of the project did not resolve the problems. Grants have been provided only to scientists. But the primary mass of the population of the atomgrads, as we already stated, are engineering and working people.

"I do not believe in any international assistance whatsoever," said Vladimir Belugin. "All of these funds and similar organizations only create the visibility of the concern, actually divert us from our business, and introduce dissension and confusion. Russia, our own state, if it intends to think about safety, must finance us. Meanwhile, continuous improvement of weapons is occurring in all of the nuclear powers."

"Right now there are many conversations that the previously mentioned special program of scientific and social development is already being developed for you where it seems that a fundamental solution of painful issues is provided for.

"We heard about that program," Belugin began to laugh, "it is very interesting that there is not a single man from either the numbered cities or from Minatom [Ministry of Atomic Energy] on the team that's involved with it. The document will certainly turn out to be amusing..."

Of course, atomgrad residents and even the entire sector have rejected a strike—and its spirit continues to spin in the air—the light in our apartments will not be immediately extinguished and the water will not be shut off. "Randomness" in the production of warheads will not occur immediately. In any case, we would like to believe that. But we must see that the accumulation of a mass of social dissatisfaction is approaching the limit. The current situation, if real steps are not taken, will mandatorily strike—and very painfully—our already adequately complex lifestyle.

Financial 'Crisis' at Arzamas-16

93WC0094A Moscow DELOVOY MIR in Russian
1 Jul 93 p 12

[Article by Vladimir Gubarev, head of the Nekos Studio, under the rubric "A point of View": "Nightmares Are Born of Reality: Contemplations of a Crisis in the Federal Nuclear Centers of Russia, Its Origins, and Potential Scenarios of the Development of Events"]

[Excerpt] [passage omitted] The entire last week I saw dreams of a nuclear explosion, and the endless shock wave rolling over cities, one after another, that I had visited. Has my imagination run away?! Or perhaps my nerves are frazzled and I only see nightmares these days?!

But these nightmares are born of reality.

A call from Arzamas-16. "Help! We are in a terrible shape—we have not been paid salaries for almost 3 months; there is no money—not only to go on vacation, or send the children to places of recreation, or take college entrance exams, but

often even to feed the family. On 10 June the Union of Nuclear Weapons Designers sent an Open Letter to the president of Russia, the government, and the Supreme Soviet, where we told of our dire situation. And this is not just our personal hardship—at stake is the fate of the Federal Center, the safety of our work. Unfortunately, there was no reaction. We turned to official information organs with the request to distribute our Open Letter—and, again, silence. We are compelled to declare a strike!"—one of the leaders of the Union of Nuclear Weapons Designers informed Nekos' press service.

I will be honest—I deliberately do not name our friend from Arzamas-16. Democracy is nice, but different laws still rule in closed cities and around them.

DELOVOY MIR, followed by other mass media, reported on the current situation in Arzamas-16, attracted the attention of both our and the foreign public, and finally "got through" to the president and the government. B.N. Yeltsin ordered an immediate transfer to Arzamas-16 of a billion rubles [R] in order to extinguish the conflict. Judging by the reaction in the press, he succeeded to a certain extent. But only on the surface, because at the rally that took place in Arzamas-16, where the president's decision was announced, the appraisals were completely different: the crisis not only did not go away—it has deepened, exacerbated. Because the creators of the nuclear weapons did not speak of salaries and back pay alone; their concern had been the fate of the Russian nuclear weapons, the safety of the motherland and all humanity.

By itself, the fact of holding a rally in Arzamas-16 and making the weapons designers' demands public is unprecedented. Not only because the people who live here are special, of national standing, who understand very well the importance of their work for the fate of the country and the world. You will probably not find anywhere else people who, contrary to all accustomed norms, put any other interests, including personal ones, last: for them, for many decades only one law existed—a complete subordination of everything to the business at hand! The people in Arzamas-16 and Chelyabinsk-70 had a clear understanding what their work meant for the fate of civilization. Just the awareness that the world has lived for half a century without the Final War and that thanks to them it had been possible to overcome any crises in the relations between the superpowers put the creators of nuclear weapons in a special position. No, not a privileged one, as Philistines believe—the one of special responsibility for the fate of the peoples. They had carried this difficult burden, although it is, oh, so heavy!

The announcement of a possible strike is an outcry of despair. I know well many of those who were at the rally, and I am convinced: they would not do anything that would reduce ever so slightly the safety of the weapons they make. Moreover, people here have a habit of thoroughly thinking through their every action! A strike for a nuclear industry worker is a pretext to show the society and the government that both of Russia's nuclear centers have approached closely the threshold beyond which the unthinkable can happen. And therefore the center's leadership made the only

correct decision: to suspend work at especially dangerous production facilities. A strike is not the point—people must work calmly and confidently, without being distracted by thoughts of how they will feed the children in the evening.

...A minor detour. During a visit to one of the center's most secret units I witnessed distribution of "cheap" sugar. Designers and engineers, physicists and electronics specialists had formed the customary line and were waiting patiently to be handed a parcel with 2 kg of granulated sugar. There was talk in the line that eggs from an affiliated sovkhos probably were to arrive after lunch.

"Of course we do not have any accommodations for such a 'store,'" lamented the chief designer who was showing me his "domain," "but what can we do? Were this sugar and the eggs to be sold in the city, our employees would not get anything—we, too, now have profiteers here. And the same eggs cost twice as much in the city."

The spot where the "sale" of sugar was held was literally next to the assembly line for the most modern nuclear "items." All right, why the secrecy? They were building warheads for intercontinental missiles there.

Chief Designer Georgiy Dmitriyev, telling me of the "store" in his design bureau, tried to joke about it, but, nevertheless, I felt the hidden hurt, pain: he cannot accept what is happening, although he does not have a choice. And I was ashamed—no, not for the "assemblers"—for all of us; for the society that permits its outstanding members to be reduced to "shopping" this way.

This is where the main problem of the fate of Russian nuclear weapons lies. The "store" in Dmitriyev's design bureau reflected, as in a drop of water, the ocean of humiliations our nuclear industry has found itself in.

No matter what we might say, the society and the government we elect had sent behind the barbed wire, into a special zone, a large group of talented people, restricting their freedom, albeit creating comfortable conditions for them. They had been tasked and entrusted with the creation of the most awesome weapons. And they voluntarily took this responsibility upon themselves. Yes, they have fulfilled their duty with honor not only at the first stage—by creating such weapons—but to this day do not allow other countries, including the United States, to overtake us. They have turned our country into a mighty nuclear power. Let us not argue now, as some politicians attempt to do, that perhaps we should not have even started the nuclear weapons program; that it had been a major mistake; etc. This debate is essentially academic: we cannot turn history back; nobody can change its course; and therefore to judge the past means to understand nothing about the present and to not think about the future. The past only needs to be analyzed—otherwise, we can repeat its mistakes; as to all kind of "trials"—this is for political graphomaniacs. So, let us talk about the concrete: the nuclear scientists have fulfilled their duty. They gave the government a powerful weapon, restored the parity and nuclear equilibrium on the planet. And then over many decades would not let the Americans—those whom the supreme leadership of the country considered our enemy—to achieve superiority. Peace on the planet

for many years hinged on the balance of nuclear forces. And this is also a historic fact, whether we like it or not.

The government had always supported nuclear scientists, realizing to whom precisely our nation owed its might.

Stop! Which "government?" Over these years, the nuclear industry had many supreme leaders. And they have been very different.

Josef Stalin and Lavrentiy Beria. Moreover, it was Beria who stood at the helm of the "uranium project." The executioner and sadist, whose hands will never be washed of blood (and such attempts are already being made by some!) nevertheless behaved completely differently with physicists. None of them were arrested and jailed, although in a tight security city, where they were eavesdropped on at work and at home, all kind of conversations were conducted—the physicists did not choose expressions. Andrey Dmitriyevich Sakharov cites many such examples in his memoirs, and of all people his recollections ought to be trusted.

Why had it been possible to do without repressions and persecution?

The government (look—even dictators!) trusted the scientists, relied on them. And physicists, out of concern for the motherland, in the shortest possible time frame and with minimum means accomplished one of the most complex tasks of the 20th Century. Our state had spent not tens, but hundreds of times less money than the Americans! Our opponents across the ocean openly admit it.

Then later under Khrushchev and Brezhnev, as well as other USSR leaders, the situation did not change. They were alternately forced to resign, sent into retirement, or buried under the Kremlin wall, but nevertheless none "came down" on the nuclear community, knowing fully well that only a madman could "start playing games with the nuclear bomb."

Unfortunately, Mikhail Gorbachev did start it.

I will say at the outset: I do not think it was a malicious intent—just ignorance. It is just that under him, and especially under Yeltsin, the ignorance and lack of understanding among the leadership have reached great dimensions, which spilled out in grandiose and irresponsible gabbling about nuclear weapons! Look around: in Moscow alone, a couple of tens of organizations and institutions are engaged in nuclear disarmament today. And what is typical—I am saying it in all seriousness because I have attended such meetings!—their members not only have never seen a real nuclear bomb or warhead, but have no notion of nuclear weapons altogether! It is too "fashionable" a topic, though—so easy to gain political capital on it.

The "twaddle" around the nuclear bomb is a real step towards a thermonuclear catastrophe.

Examples? Be my guest! No one is listening to nuclear scientists—and they know better than anyone else the status of the weapons and their dismantling today.

They attempt to reach the president, the government, and the parliament, but their letter, sent to all three addresses, gets no response.

And that is why at their rally in Arzamas-16 they are compelled to say:

"The many-thousands-strong collective of the Russian Federal Nuclear Center [RFNC]—the All-Union Scientific Research Institute of Experimental Physics—is compelled to make this letter public through the mass media since all attempts to reach the addressees through official channels have brought no results."

Sometimes I get the feeling that our leadership is not even aware of the existence of federal nuclear centers. Or just heard that Yeltsin had visited Arzamas-16, and Baker, Chelyabinsk-70. They certainly have no notion of who runs these centers. You think I am exaggerating? Not at all.

I recently conveyed to one of the deputy prime ministers my conversation with Yuliy Borisovich Khariton, the problems that concern our outstanding scientist. "You mean the old man is still alive?!" asked the deputy prime minister in amazement. Do forgive me, Yuliy Borisovich, that I make this episode public! But the reaction of one of the top people in the government really shook me up: since he is not aware of your status, he obviously is even less aware of the situation existing in the federal nuclear centers. And, what is most regrettable, has no desire to find out—that is why the letters from nuclear weapons designers to the higher echelons go unanswered.

A.I. Pavlovskiy, an outstanding physicist and one of the leaders of the Federal Nuclear Center, died recently. There were no official condolences, no obituary. In the United States, the Aleksandr Pavlovskiy Fund was immediately set up in memory of our academician; the fund sent medicines to Arzamas-16 children, each year invites five talented kids for a visit; here—complete silence.

I had the privilege of talking to Aleksandr Ivanovich shortly before he died. The conversation covered many subjects; among others, it touched upon a certain "initiative" made public by the president and the minister of foreign affairs of Russia, which, unfortunately, specialists could only smile at.

"Such information is the result of incompetency of advisers," said Academician Pavlovskiy. "Of course, the president or the minister of foreign affairs cannot know all the fine points, but they do have the staff to do it. And such statements discredit first and foremost those who prepare materials for the leadership. I know one thing: the president's aide who is in charge of nuclear weapons issues has to be a person of extreme integrity and a specialist of high qualifications. In this area, ethics, morality, and technical knowledge are fused, and it is impossible to separate them."

Unfortunately, the president does not have such advisers; otherwise, Aleksandr Ivanovich Pavlovskiy's passing would not have gone unnoticed for the supreme leadership of the country.

Actually, when it comes to pontificating on the subject of nuclear weapons, everybody immediately jumps into discussions, especially if they are conducted abroad.

Gorbachev "started" it. He declared that the USSR intended to enter the 21st Century as a non-nuclear power. By itself, the slogan is impressive: it shows that we are peace-loving people. But nobody advised the former USSR president that it was impossible to achieve—political slogans must be based on reality, or at least technical feasibility. Or maybe he did not want to hear it?

Later, the president of Russia jumped into the so-called "nuclear disarmament." And once again there was not a single person at the national leader's side who was at least "technically literate" enough to formulate one or another "peace initiative." Recall, for instance, the "retargeting of nuclear missiles away from American cities," or "overfilling the plan of dismantling medium-range missiles," or "destruction of nuclear warheads located on the territory of Ukraine and Belarus..." Yes, such statements sounded impressive; among the specialists, however, people understood very well that they could not be accepted, since it was impossible to accomplish it within the time frame mentioned. This was, by the way, also very well known to the Americans, who take advantage of the existing situation for "purposes strictly their own." I do not want to blame them for this: they act in the interests of the United States, and therefore are doing the right thing. I would do the same in their place. They, however, also made one mistake. The brunt of the "antinuclear campaign" hit them hard, too. I mean the massive campaign of "denunciations" that hit nuclear physicists.

"Monsters," "hawks," "man-haters," and so on, and so on, and so on—I am ashamed even to repeat it. This is about the people who have accomplished remarkable achievements in science! About the people who now have to carry a no less heavy burden—nuclear disarmament. By the way, this very disarmament had started not at high political podiums, but actually here—in the Arzamas-16 and Chelyabinsk-70 nuclear centers. I will refer again to the example of Academician Sakharov, who told—for all to hear—of the danger facing humanity. The alumni of Arzamas-16 never blamed his colleagues in the business of creating nuclear weapons, because he understood their thoughts and their hopes. Those ideas and views that Andrey Dmitriyevich took with him to the "mainland" had been born and developed in the milieu of his colleagues—nuclear scientists; in those endless arguments, discussions that were going on among the theoreticians, in design bureaus, during walks along the river banks, and in cottages where physicists lived.

Nevertheless, a massive attack on nuclear scientists already had been underway for 5 years. Thank goodness they have good nerves, but still, the results are already visible: the prestige of the profession went down sharply; research institutes lose specialists to commercial structures; scientists continue to emigrate. Unfortunately, even the people from the president's inner circle and people's deputies participate in this propaganda. One would think that they should be among the first to care about national

security, its development, the maintenance of its intellectual might—and these are the notions associated with the work in Arzamas-16 and Chelyabinsk-70. For the first time in history, a split has emerged between the national leadership and nuclear scientists.

Let us recall the opinion of Stanislav Voronin, the chief designer of nuclear weapons, expressed in the material published in DELOVOY MIR.

"Populism is very dangerous in our profession. It may result in a catastrophe, since it misorients the people. We have to always remember that we are dealing with dangerous technologies; fortunately, we have not yet made major mistakes—we have not had accidents involving nuclear weapons. So why unwittingly provoke them by humiliating and insulting the people who work in this complex?"

Nuclear weapons safety is a sum of many components. I would divide it, as one may put it, into two parts: "technical safety" and "political safety." One is ensured by specialists; the other—politicians, that is, the national leadership. It is a paradox, but today we do not have "political" safety of nuclear weapons. Sounds exalted? Not at all. I was a witness to the birth of some systems of modern conventional weapons intended for mass destruction of troops—in those times the military doctrine envisaged an attack on the USSR by China. The decision to include such systems in our arsenal was substantiated by defensive needs. Now the "political" part of security of all kinds of Grads, Urags, and so on has been lost, and immediately the systems of mass destruction began to be used in interethnic conflicts, in "hot spots"—not at all for defense, although each side says so.

Is it Kalashnikov's fault that his automatic rifles are used by bandits?

From the Appeal of the Union of Nuclear Weapons Designers:

"We have to point out that the widely broadcast concern of Russian political and government figures over the problems of nonproliferation of nuclear weapons technologies is in a glaring contrast with the denigrating socioeconomic situation in which specialists in the federal nuclear centers have been placed lately, and which contributes to flight from the centers and proliferation of conduits of nuclear technologies outside of Russia.

"The hopelessness of the situation, exacerbated by a dismissive attitude of the state towards its citizens who have devoted their life to ensuring its national security has brought us close to the line beyond which developers of nuclear weapons—not by their own will or convictions—will find themselves unable to ensure the reliability and safety of Russian nuclear weapons and will be forced to leave this sphere of activities."

Each of us has an imprint of the Chernobyl tragedy. And of guilt for it. No matter how some wish to shirk the responsibility by blaming it either on operators or designers, we have to understand that the cause of the Chernobyl catastrophe also lies in our poor work. In the sharp decline of quality of labor; in the contemptuous attitude towards

training of specialists; finally, in the slogans such as "the economy must be economical." Did we not demand: "faster, cheaper, and more"? And the exhortations to "fulfill before time the plans and obligations"—did we not participate in it? Yes, we can blame the Politburo and the government—and nobody can remove from them the blame for Chernobyl—but nevertheless, why are we unwilling to acknowledge our own?

Today we have another opportunity to check our decency, reason, and caution.

Nuclear scientists appeal to us, to the public. They are trying to say loudly: "An abnormal situation has emerged around nuclear weapons!" Do we hear their warning? Or shall we afterwards—God forbid!—look for the guilty and angrily denounce them? And there will be again angry speeches by deputies and candidates for deputies about the irresponsibility of the rulers, about nuclear scientists who have allowed the catastrophe to happen, about the vices of the system. As is known, it is easier to prevent a disease than to treat it. This is precisely the case.

One cannot help but feel amazed over the reaction to the happenings in Arzamas-16. Minister V.N. Mikhaylov met with President B.N. Yeltsin and did get a resolution attached to the letter: "To provide all necessary means and to find out why edicts are not carried out." A billion rubles were appropriated to pay off the back pay to nuclear scientists. It would seem that the conflict has been extinguished, right?

But is this a state-like way to make decisions?

As is known, edicts in Russia are not carried out at all; most often they remain on paper. In any case, this applies to a full extent to the edicts regarding the Russian federal nuclear centers. Although they were issued more than a year ago, practically nothing has been done. Both centers are not fading away—they are disintegrating—but more on this a little later.

Now, about that billion. These rubles will barely be enough to pay the back salaries the state owes to nuclear scientists. And let us admit it honestly—it has mercilessly, cynically "robbed them," since they were supposed to get this money in April. Since then inflation has eaten up half of this pay, but there is no intention of compensating for the losses. Since 1 April the average salary in federal nuclear centers had been raised from R15,000 a month to R30,000-R35,000. By the way, please note: I internationally quote precise figures in order to knock out our "doves," who maintain that the "nuclear hawks" are making crazy money! So, R35,000 in April—this is, basically, half that much, since according to statistics inflation is running at 20 percent a month.

And is the pay everything?

Let us go back to the letter of Arzamas-16 staff:

"The RFNC today is virtually placed in a situation of liquidation. Sharp cutbacks in financing have a ruinous effect on the pace of work aimed at ensuring nuclear weapons safety; unique technologies that require their continuous use are being lost. Discipline declines, and as a result of this,

unpredictable accidents are possible. Highly skilled specialists leave. Social tension, associated with the peculiarities of living in a closed city, is fast increasing."

Last year I visited Arzamas-16 and Chelyabinsk-70 several times. I met with the leadership of federal nuclear centers, inquired into the current situation. What are these centers anyway?

Director Vladimir Belugin says:

"Arzamas-16 is a formidable scientific institute, with a tremendous potential that is used today to half its capacity. It is still moving forward by inertia, since its mass is great. And as is known, the greater the mass, the greater the inertia. Because of traditions and available opportunities this organization, that is, the institute, is still trying to do something. But unless the situation changes, the movement will come to a halt. We have always had a narrow goal—create weapons, but in order to achieve it we had to work in a very wide range of fields. We had to research and launch new fields: measurement, impulse, and high-speed technology. Another specificity is that we were not permitted to use anything imported; our sphere could not depend on international deliveries, so we always worked only with domestically-produced materials. Also, we knew very well that the West would not give us the best—only something worse—and therefore we had to rely only on our own resources. We have unique devices, including laser- and plasma-based, and so on. There are fields where we are far ahead—Americans themselves acknowledged that they are about 15 years behind, for instance, when they saw the BIGR [rapid-impulse graphite reactor] reactor. Now they are catching up, however, because as compared to us they have unlimited resources—both financial and others."

Vladimir Nechay, director of the Chelyabinsk-70 Federal Nuclear Center, says:

"There is no Russian budget, per se. Defense expenditures are not set. There are even no annual plans. In the past, that is, in 1992, there were attempts to set up financing by quarter; then monthly... Gaydar had been conducting a very strange policy—he was not involved in the economy; all he wanted was to make expenditures equal revenue. But this is only possible in one situation: when zero equals zero. It is upsetting that there exists a distorted perception of the defense complex. I think it all started with Mr. Gorbachev, who simply said: Do not give them any money, and they will have to engage in conversion. As if it is possible to use assembly lines designed for bombs to make saucepans. In short, the president of a great country had absolutely no notion what conversion is! Could he not at least look at the experience of other countries, which after World War II converted to civilian production? Conversion always involves expenditures: you have to restructure production, install new equipment, retrain people to use new technologies... With us, they did just this: simply stopped giving us money and said: "Find your own way out!" Naturally, a runaway rise in prices began, but we do not have any indexation; therefore, credits, credits, arrears in paying suppliers. So it ended up with everybody owing to everybody else, but nobody being able to buy or sell anything.

Production stagnated. Unfortunately, the situation continues to worsen sharply. Federal Nuclear Center is first and foremost a scientific research institute where specialists in all sorts of fields and scientific specialties are gathered: theoretical physics, experimental physics, design, technology, testing, and so on. All of them together have learned to solve major tasks. This formidable organism had been built over decades. Its potential is enormous. If we transfer the ability to work on the creation of nuclear weapons into any other area, we will get great results on the world level. A development of any innovation 'by weapons technology'—which means, quality, reliability, and effectiveness."

To support the words of both federal center directors, there are tens of "conversion" projects proposed by scientists and specialists of Arzamas-16 and Chelyabinsk-70. From the production of medical equipment that is on par, and sometimes superior, to any foreign-made, to fiber optics communications systems. From the newest scientific research instruments to new casting technologies. These were ready samples, already tested technologies. In short, ready for the industry to take and use, but... it turned out that nobody needs it. And the same instruments, equipment, and technologies—except of much worse qualities!—are being purchased for hard currency in the West.

Why such indifference?

Strangely enough, we have to go back to the "ignorance" that permeates our current society. We constantly speak of market relations, concerns, joint-stock societies, and other structures, forgetting that at the head of this process should be the state, since it is the main property owner in the country. And it is the government, represented by its ministries and agencies, that could set an example of how to build these market relations. Including that of the example of federal nuclear centers.

As is known, the most expensive commodity today is the one where most ideas and intellectual labor has been invested. Achievements of highly developed countries are based on science-intensive technologies, which bring the highest revenue. Yes, nuclear physics and space research in the United States or France are the property of the state. And therefore all achievements of scientists and specialists belong to it, and the state acts as their "seller." Private capital, firms, and concerns are ready to buy in one or another form these science-intensive technologies created in such science centers and branches of science.

The danger and the restrictions on the proliferation of nuclear technologies do not permit the Russian Federal Nuclear Centers on their own to act as a "seller" or "supplier" of their work. Our leadership, on the other hand, because of ignorance does not do anything to promote them in the market. It is obvious that federal centers cannot become completely self-sufficient—this is simply impossible in fundamental science: had we unlimited means, we could without nuclear physicists' applied work—well, there is enough money anyway. But the situation is completely different! Russian science essentially drags out a miserable existence; we should not expect from it new technologies and achievements. During all the years of perestroika life in

science went on only thanks to some "fat," the reserves accumulated from before, over many years of its development. Federal nuclear centers are still able to resist the destructive process. But they cannot exist in this situation for long: the societal crisis ensures their deterioration, which has already begun, and their death in 2 to 3 years. This is not an exaggeration—this is reality.

From the letter of nuclear weapons developers:

"The reality of the modern world is such that nuclear weapons will be around for a long time. In these conditions the task that comes to the forefront is to ensure the safety and reliability of the remaining nuclear weapons and their modernization aimed at accomplishing these tasks. The degree of real safety of nuclear weapons depends first and foremost on the scientific and technical potential of Federal Nuclear Centers and the national leadership's attitude toward this important problem. The availability of socially-protected skilled personnel, powerful computer centers, unique physical installations and technical equipment, test sites are a necessary condition for ensuring the nuclear weapons safety as long as even one nuclear charge still remains on the territory of Russia.

"The disintegration of the RFNC stems not only from insufficient financing. The absence of a clear military doctrine developed at the level of the Russian Federation leadership, and the place of nuclear weapons in it, results in an uncertainty of Nuclear Center's goals and tasks not only for today, but also for the future. In order to preserve the RFNC, this uncertainty has to be urgently eliminated."

The war has been over for many years; almost half a century has passed since the day fireworks went up on Victory Day. Once in a while however, we still find mines and bombs in the ground. We immediately call the sappers, to save us and our children from death. Fortunately, there is such a profession—"sapper."

Who will remove the "nuclear mines" and render them harmless? We could, of course, destroy the federal nuclear centers in Russia, turn them into "a memorial of the 20th Century mistakes," as one of the presidential advisers called them, but will this make the planet safer?

IAEA Concerned Over Nuclear Weapons in Ukraine, Kazakhstan

LD2708101893 Moscow ITAR-TASS in English
0858 GMT 27 Aug 93

[By ITAR-TASS correspondent Vadim Chistov]

[Text] Brasilia August 27 TASS—The International Atomic Energy Agency (IAEA) is concerned with the fact that former Soviet republics, such as Ukraine and Kazakhstan may possibly retain nuclear weapons stationed in their territories, IAEA Director-General Hans Blix told a press conference here on Thursday.

Blix arrived here at the invitation of the Brazilian Government to discuss the agency's role in implementing a 1991 three-partite agreement between the IAEA, Brazil and Argentina on peaceful uses of atomic energy.

Speaking of nuclear disarmament as a world-wide process, Blix pointed out that relevant agreements, signed by the leading nuclear powers, played an important role.

At present, comprehensive nuclear test ban talks are likely to succeed, he said.

A ban on production of enriched uranium and plutonium for military purposes is also being considered, he added.

Touching on problems in this field, Blix pointed to Iraq and North Korea. As was earlier disclosed, Iraq is working on a clandestine research programme aimed at producing nuclear arms. The North Korean authorities, for their part, have prevented IAEA experts from inspecting the plants which are allegedly engaged in activities banned under the nuclear non-proliferation treaty.

The fact that Ukraine and Kazakhstan retain nuclear weapons hinders international control over nuclear non-proliferation, Blix emphasized.

U.S. Stance on Moscow-Kiev Dispute Eyed

PM2508102193 Moscow KRASNAYA ZVEZDA
in Russian 20 Aug 93 p 3

[Manki Ponomarev "Observer's Opinion" article: "Moscow-Kiev Clash. This Seems To Be Washington's Persistently Pursued Aim"—passages within slantlines published in boldface]

[Text] Washington does not tire of repeating that it was the United States which won a decisive victory in the "cold war." But this is most probably aimed at public opinion. What is actually happening is that it also wants to consolidate the victory it thinks it has gained—to consolidate it by the final breakdown of what was once the Soviet Union.

A great variety of means are being used to achieve this most desired of aims. Incidents of unconcealed speculation, not to say provocation, figure prominently among them. One reason for them was official Kiev's rather vague stance on the question of the nuclear arms situated on Ukrainian territory.

Let me remind readers that, following the USSR's collapse, the arms that remained there were 130 RS-18 silo-launched ICBMs (SS-19s in NATO terminology) with six nuclear warheads each, 46 RS-22 ICBMs (SS-24s) which are also silo-launched and carry 10 warheads each, and 43 TU-160 and TU-95MS strategic bombers equipped to carry nuclear bombs and missiles. There are 1,880 weapons in total. This has put Ukraine in third place among all the nuclear powers in terms of of strategic weapons and their delivery systems.

A protocol was signed in Lisbon in May last year, in accordance with which Ukraine, like Belarus and Kazakhstan, pledged to ratify the START I Treaty, to give up in their entirety the former USSR's nuclear weapons which have remained on its territory, and to join the Treaty on the Non-Proliferation of Nuclear Weapons as a non-nuclear state. But more than a year has passed since then and, as far as Kiev is concerned, the ball has not started rolling yet.

This is a serious problem. But there is every reason to think that sooner or later it will be resolved. There have been promising signs recently to back up this statement.

But certain forces in the United States would not be averse to aggravating the problem instead of settling it, so that, by exacerbating it, they could fragment the independent states which have emerged from the ruins of the USSR, drive a wedge between them, and pit them against each other. This would apply primarily to the most powerful and important among them—Russia and Ukraine.

We will not, of course, find any statements from representatives of the Washington administration on this topic. But from time to time articles appear in the pages of the U.S. press which directly serve the cause of attaining this aim. Evidence of this is provided, for example, by articles which appeared in the latest issue of the journal FOREIGN AFFAIRS.

Let me remind readers that FOREIGN AFFAIRS is an elite and very influential foreign policy journal published by the U.S. Council for International Affairs. People pay attention to what it says, and sometimes the White House and the Department of State express their innermost views on various important issues in it. The author of the article on which we will concentrate here is John Mirsheymer [transliteration], professor of political science at Chicago University.

At first glance Mirsheymer has dedicated his article to proving a thesis which is at heart unprovable: "It is a mistake to put pressure on Ukraine so that it becomes a non-nuclear state." But only at first glance. A closer examination of the author's argumentation makes it clear that his main objective is to frighten Kiev with the "Russian threat," to set the Ukrainian and Russian peoples against each other using all possible means, and to stir things up between them. How else can you interpret the complaints that Ukraine will be unable to form an army "strong enough to halt a Russian attack" and contain "Russian aggression?" For this reason, he says, Kiev cannot under any circumstances give up nuclear weapons, which "represent a powerful force for peace because they are weapons of mass destruction(!)" For "an aggressive Russia could not fail to take into account the nuclear threat from Ukraine." Hence the direct recommendation for Kiev to keep its nuclear weapons "irrespective of what other states may say or do." And so on, and so forth.

All this is followed by the conclusion that "Russian-Ukrainian relations will probably deteriorate in the future." This "forecast," if I might use this expression, is based on the argument that Ukraine's decision (as proposed by the author) to keep its nuclear weapons "may enrage and put on edge the Russians who do not want Ukraine to have them." "This would prompt Russia to pursue a more aggressive foreign policy, thus increasing the chances of a preventive war."

And the United States can only gain from all this as it, supposedly, "will hardly be subjected to a nuclear strike in the event of a Russian-Ukrainian nuclear exchange." Therefore, it is necessary to do everything (but quietly, according to Mirsheymer's proviso) to encourage Ukraine in its aspiration to preserve its nuclear potential.

At whom is the author aiming these cynical designs, to whom is he addressing them?

First, at his own U.S. leadership: Take advantage of the circumstances, he is saying, do not put pressure on Kiev to ratify the START I Treaty quickly and become a non-nuclear power. It still will not pose any danger to the United States, and a future rift with Moscow will become inevitable.

Second, at Ukraine, especially at local nationalists: Be on your guard, do not give up your nuclear missiles, otherwise you will again fall under the Kremlin's power. In general be prepared for resistance—the Russians are coming.

Third, at Moscow: Look, perfidious Kiev does not want to part with its nuclear arms. It has an ulterior motive. Is it not time to switch from warning statements to preventive actions using force directly?

These are the outlines of the "foreign policy program" for whose publication FOREIGN AFFAIRS made many of its pages available.

/Let me remind readers that, soon after the end of World War II, this very journal published an article signed "X" which, together with Winston Churchill's speech in Fulton, became the formal declaration of the "cold war." It became known later that the person behind the mysterious pseudonym was U.S. diplomat George Kennan./

John Mirsheymer did not hide behind a pseudonym. And why should he? After all, he is not alone. Another writer in the same issue of FOREIGN AFFAIRS—Stephen Miller—argues about the possibility of Russian-Ukrainian confrontation, crisis, and even armed conflict. It is evident that this approach toward relations between Moscow and Kiev (and it is becoming more and more widespread) already impresses some people across the ocean very much indeed. To say the least, nothing has been heard about any rebuttals by official circles.

That which is being discussed with increasing frequency and persistence in Washington is being directly echoed among extreme nationalist circles across the former USSR. Especially among Ukrainian circles which openly proclaim: "Alliance even with the devil, but not with Russia!"

It can only be hoped that the U.S. provocations will not leave the anticipated impressions on Moscow and Kiev. And that, on the contrary, they will inspire people not to provide any unnecessary reason for the two neighbors, which have been linked historically by close ties through the centuries, to quarrel among themselves.

German Defense Minister Visits Ukraine, Kazakhstan

Press Conference in Kiev

WS1808081493 Kiev Ukrayinske Radio First Program
Network in Ukrainian 1900 GMT 17 Aug 93

[Report by Marat Pogorelov]

[Text] Kostyantyn Morozov opened the news conference taking advantage of the privilege of the host. He mostly repeated [words indistinct] that we told you about in our report on signing the manifold agreements between the two military ministries. Morozov underlined that [German Defense Minister Ruehe's] visit marks a new stage in the relations between the two states. Now, let us listen to Mr. Ruehe's evaluation of the visit.

[Begin Ruehe recording in German with superimposed translation into Ukrainian] We also view the visit as an important event in bilateral relations. The visit helps to eliminate alienation in Europe. Our negotiations were very earnest. We did not waste time; we were busy working. I am very happy with the agreements that we have managed to sign. I believe that it is very important that our states—Germany and Ukraine—have gained much from the political revolutions that occurred in their countries. Ukraine won independence due to a political revolution, which is very important for both Ukraine and all of Europe. Germany managed to overcome its separation. It is unified now, and it is very interesting to observe the process of unification of once separated German Armies. It is as interesting to observe how the Ukrainian Army is beginning to shape up after the disintegration of the Soviet Army. It is very interesting to observe the joint steps and actions of our states within the framework of the UN. I hope that we will continue the dialogue with regard to our future actions. [end recording]

Later, the two ministers answered the reporters' questions. Of course, there were questions on the presence of nuclear arms in Ukraine. Mr. Ruehe pointed out: I think that any sober politician will voice a desire to see his land nuclear-free, even more so Germany which [word indistinct] has no such arms. At the same time, Germany understands all the difficulties awaiting Ukraine on this path. Germany needed 500 million German marks for the partial limitation of conventional arms. Germany, which allocated large sums for building in Ukraine accommodations for servicemen of the Western Group of Arms, is ready to participate in international disarmament funds.

Further Report

LD1708161993 Hamburg DPA in German 1445 GMT
17 Aug 93

[Text] Kiev (DPA)—Defense Minister Volker Ruehe spoke in favour of good relations between Germany and both Ukraine and Russia in Kiev today. At a news conference with his Ukrainian counterpart Konstantin Morozov at the end of a two-day visit to Ukraine, Ruehe said: "I want to work for good relations with both Ukraine and Russia." He paid tribute to the efforts of President Boris Yeltsin and

President Leonid Kravchuk in settling the conflicts between the two former Soviet republics.

Bonn and Kiev have concluded an agreement on military cooperation similar to that already in existence with Moscow. It provides for reciprocal working visits and contacts between the armed forces. Morozov said that drawing closer to Germany does not mean turning away from contacts with the CIS: "However, in order to make cooperation with Russia more simple, one must first of all organize cooperation with other European powers."

Ruehe again urged the Ukraine, as agreed, to join the nuclear non-proliferation treaty. He expressed understanding for Kiev's wish for financial and technical assistance in nuclear disarmament. Morozov explained that Ukraine cannot make any money available for this from its budget. One hundred and seventy-six former Soviet ICBMs are stationed on Ukrainian territory. A delegation of the German Bundestag Defense Committee was briefed by Ukrainian parliamentarians on the progress of START-I ratification.

Ruehe familiarized himself today on the reorganization and state of training of the Ukrainian armed forces. At the Vassilkov base south of Kiev, the Ukrainian Air Force demonstrated the performance of a MiG-29 fighter-bomber. The five-month basic training of recruits was shown at the Ukrainian army training center on the Desna river. Ruehe is expected in Almaty tomorrow, where he will speak with the Kazakhstan leaders on the security situation in the north Asian region.

Ruehe Urges Joining Nuclear Treaty

LD1708161993 Hamburg DPA in German 1445 GMT
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Nazarbayev, Ruehe Discuss Military Cooperation

LD1808172193 Berlin ADN in German 1613 GMT
18 Aug 93

[Text] Almaty (ADN)—Kazakhstan's leader Nursultan Nazarbayev has reaffirmed his country's striving for non-nuclear status. "Kazakhstan does not want to be a nuclear power, but insists on security guarantees from the major powers," Nazarbayev said today in Almaty at a meeting with German Defense Minister Volker Ruehe. Along with Russia, Ukraine and Belarus, Kazakhstan is a Soviet successor state where nuclear weapons are stationed. Ruehe arrived in the Kazakh capital today after a 2-day visit to Ukraine. Both sides reaffirmed their country's willingness to expand cooperation in the military field. This applies in particular to training cadres. During their meeting, which lasted about an hour, Nazarbayev and Ruehe also discussed the situation facing the approximately 800,000 ethnic Germans living in the CIS republic.

Transcript of Reagan-Gorbachev Reykjavik Talks

93WC0096A Moscow MIROVAYA EKONOMIKA I
MEZHDUNARODNYYE OTNOSHENIYA in Russian
No 7, Jul 93 [Signed to press 21 May 93] pp 88-104

[Transcript under the rubric "Pages of History": "From the Gorbachev Archive (M.S. Gorbachev's Talks with R. Reagan in Reykjavik on 11-12 October 1986): The Third Conversation (Morning of 12 October 1986)" For earlier report see (Arms Control) JPRS-TAC-93-011, 19 May 1993, pp 20-25]

[Text] G. Shultz and E. A. Shevardnadze were present during the conversation.

Gorbachev: This is our third meeting, Mr. President. Our representatives who took part in the meetings of the two groups on preparation of directives—the group on arms control questions and the group on bilateral issues, regional problems, and humanitarian questions—have reported the results of their work to me. You too have probably received such a report from your representatives. Let's begin with an exchange of opinions. I propose that you begin.

Reagan: Good. I have a more or less clear picture of how the meeting of the arms control group ended. Concerning the other group, where Ridgeway from our side was presiding, I do not have a complete picture. But I think, let's begin with arms control.

The report of this group, which worked yesterday evening and this night, generally disappointed me, with certain exceptions. But let's take things in order.

On strategic nuclear weapons we can establish a certain degree of agreement, and it is significant. Both sides showed a desire to compromise. In general this is understandable, because this is an area where we have already been working for a long time, have accumulated experience, and know what we are talking about. We agreed to apply the formula of 50-percent reductions across the whole spectrum of these weapons. This approach can move the talks in Geneva ahead, and both parties can be proud of this.

On intermediate-range nuclear weapons. The parties discussed a number of questions, including missiles of shorter range, the effective period of an agreement, and the problem of monitoring. These questions can be discussed further at the talks in Geneva. The parties were not able to resolve the problem of reducing intermediate-range weapons in Asia, although they discussed it in great detail. As we see, this is not a technical matter. I will remind you that the American side at the very start made a proposal for a global reduction of these weapons to zero, that is, elimination of an entire class of weapons. We continue to think that solving this problem requires a global approach, a global agreement. All this is not news to you, but we cannot ignore the existence of a problem if we want to move ahead toward arms reduction. I cannot permit the creation of a situation where we would reduce these missiles to zero in Europe and not make proportional reductions of similar Soviet missiles in Asia. This is a question of the SS-20 missiles. They are mobile and can be moved easily from one place to another. Their presence exerts an influence on our Asian allies, not to mention our allies in Europe. This is not news to you either. But we cannot disregard the desire of the European and Asian governments to reach a global solution of the problem of intermediate-range missiles. They completely support this position and insist on it in the interests of their own security. In your letter to me you said that a solution to the question of Soviet missiles in Asia could be found if we would reduce or destroy our intermediate-range missiles in Europe. So you also recognize that a solution can be found on a global basis.

If the global, zero-level option does not suit you, we proposed an intermediate agreement which would envision equal limits on these missiles of the USSR and the United States in Europe if we count warheads, and equal limits on a global scale. We are ready to agree to a figure of 100 warheads each for the USSR and the United States in Europe if we can agree on other aspects of the problem, among them proportional reductions of warheads on Soviet missiles in Asia, and the United States would have the right to deploy the same number of warheads in its territory. We can talk about the number, 100 warheads in Asia, or we can talk about a smaller number, for example somewhere around 63, if we figure the proportion of the reduction from the reduction of these missiles in Europe. I am ready to accept the figures 100 in Europe and 100 in Asia and to order the participants of the talks in Geneva to work out the details of the agreement.

Gorbachev: I want to establish the American position precisely. You agree to 100 Soviet and 100 American warheads on medium-range missiles in Europe, 100 warheads on Soviet IRMs [intermediate-range missiles] in Asia, and the right of the American side to deploy a similar number of warheads in U.S. territory. Do I understand you correctly?

Reagan: Yes, that is right.

The issue of *space and defensive weapons*. Here we have differences, we recognize that. The sides were not able to reach agreement. I am convinced that I cannot retreat from the policy I have declared in the field of space and defensive weapons. I simply cannot do it. Therefore, in this we could order the participants in the negotiations to concentrate on three critically important questions. Two of them have to do with the present, while the third relates more to the future. In each of these questions we are ready to consider your concerns, but we expect that you will take ours into account. The first question is, how can we synchronize actions in the area of creating strategic defense while implementing the goal of eliminating ballistic missiles? The second question is, what are the conditions and time framework for the transition to a situation where the sides would rely on strategic defense? The third question is, what actions and what mutual understandings could lead to a gradual transition from the ABM Treaty to a new system based on strategic defense? I understand that our positions on these questions are far apart. Therefore, at a minimum we could order additional talks and try to bring the positions closer.

Nuclear testing. I am disappointed with the report of the group working on this question and I only hope that the result reflect a lack of imagination on one or both sides. We agreed yesterday that negotiations should be started without delay. We also agreed on the agenda, procedures, and final goal. The sides could not even agree on how to start these talks. I propose that we present the understanding that we reached and agree to begin talks immediately on questions of nuclear testing. These talks should be coordinated with solving the problem of eliminating nuclear weapons and their final goal should be stopping testing. During the talks such important matters as monitoring, other questions, and existing treaties in this area could be discussed. As for the name of the talks, let each side call them what they like. That is not so important when we have an agreement on the agenda and final goal of the talks. Let's give the appropriate directives.

Gorbachev: I do not exactly understand what you have in mind.

Reagan: On this question the sides could not work out a single, acceptable formula. The positions of the sides still differ.

Gorbachev: Could you state how you see the final goal of talks on this question.

Reagan: The United States and the USSR begin negotiations on questions of nuclear testing. Their agenda would include all aspects of testing, including the unresolved questions, existing treaties, monitoring, limits on power of explosions,

and others. These talks could occur together with stage-by-stage elimination of nuclear weapons and would ultimately lead to stopping nuclear testing.

That is what can be said about the work of the arms control group. In the second group, concerning those questions which I am aware of we have reached understanding, and the desire of the parties to work on thermonuclear synthesis looks especially positive.

Gorbachev: I can state our preliminary attitude toward the questions posed in all three of the problems you have mentioned, Mr. President. You reviewed the work of the two groups overall, concentrating on the arms control group. I want to briefly recall our approach to these problems. We think that our new proposals that we brought to Reykjavik are formulated with a substantial constructive element, and not on the philosophical level, but on the real, practical level. We have made major concessions to the United States in the hope that it will be possible to get the arms control talks moving and work seriously on reducing nuclear weapons. It is my impression that the American side is not taking this position of ours into account or, at the least, as we see, carries on the discussion in the same tone as was done in the talks in Geneva. I have already mentioned this, and I will repeat it now: discussion of the problem in negotiations and other contacts between the two sides did not provide a way out of a deadend situation. The Soviet leadership is convinced that the problems must be looked at with a broad view and we must demonstrate political will power and readiness for large-scale decisions to get out of this deadend. We think that our major proposals, which are based on the principle of equal security, are appropriate to this. We expect the same of the United States.

As I see, we can establish the existence of agreement on the problem of strategic nuclear weapons, to the effect that the principle of 50-percent reductions should apply to all components of strategic forces, both platforms and warheads. We took the concerns of the United States into account here.

Regarding intermediate-range missiles we are discussing a sphere in which we have been engaged in negotiation for a long time, and we are going over all the problems that concern the United States, the Soviet Union, and our allies, carefully. It seems to me that we have taken account of all the concerns of the American side in our proposals. What do I have in mind? First, we are setting the English and French nuclear forces aside. Second, we agree to freeze missiles with a range of less than 1,000 kilometers and enter negotiations concerning these missiles. Third, we recognize that a problem of deployment of intermediate-range missiles in the Asian part exists although, strictly speaking, this question does not relate to Europe. But we considered that the American side persistently raises this question and is ready to resolve the question of intermediate-range missiles in Europe in coordination with intermediate-range missiles in Asia. We decided to meet the American side half-way and are ready to sign a document that says we have entered into negotiations on these missiles.

When you listen closely to the American positions you get the impression that the U. S. President and administration are beginning from false premises. You and your people think that we have a greater interest in nuclear disarmament than the United States does, that if you put a little pressure on the Soviet Union it will raise its hands and surrender. That is a dangerous mistake. It is not going to happen. You talk of some kind of intermediate agreement, to which we do not agree. We will not accept palliatives. We want a solution to the problem.

As I understood your position, Mr. President, if we could find a concrete solution to the problem of intermediate-range missiles in Asia—I mean not just a protocol of negotiations but a concrete solution too—you would agree to complete elimination of Soviet and American missiles, to a zero-level solution in Europe. Do I understand you correctly?

Reagan: That will depend on what figures we adopt for missiles in Asia. They are mobile weapons, it is not hard for you to move them from one place to another. But with the zero-level option the United States would be left without means of deterrence in Europe from such an outcome. You would be left with 100 warheads in Asia, while our missiles would be brought back to the United States. So you would have a 2:1 advantage, no more, an absolute advantage because we would have no deterrent in Europe. You understand that we have friends in Asia and we have friends in Europe. Among them are some countries with whom you are also trying to establish better relations. What is wrong with the idea that no weapons at all would be aimed at these countries?

Gorbachev: Mr. President, in your reasoning you appear to have forgotten the existence of the English and French nuclear forces, but they exist and can be built up. When we talk about a zero level in Europe, we are in fact talking about a zero level for ourselves, for the Soviet Union. But if you think about it, what kind of zero level would this be for the United States if its allies continue to have nuclear weapons and we eliminate all of ours? Are you aware of the step, the risk which we are taking in order to reach agreement on intermediate-range missiles?

As for the Asian missiles and the possibility of moving them to Europe, I will say frankly, Mr. President, that I actually find it a little awkward to hear that in a conversation on our level. If we reach agreement on intermediate-range missiles, we will be able to ensure a situation so that this understanding is not violated. Our sides have adequate capabilities for inspection and monitoring to establish the fact of a violation. We can include in the text of the treaty that the transfer of just one missile from Asia to Europe would be grounds for abrogation of the treaty. I did not want to say this, but I have to. These are not serious arguments, let's agree not to waste time.

Reagan: We do not consider the English and French forces a part of NATO. Those forces exist for the defense of those countries, their governments have stated that clearly. It appears that they will not be activated in a case such as an

attack on West Germany. Moreover, against these forces you have your own deterrent means in Europe, strategic weapons.

Gorbachev: Mr. President, you say that the English and French missiles are not defending West Germany. Well, who will defend the GDR? And Czechoslovakia, Romania, and Bulgaria? Who will defend them? That argument does not work. That is the first thing. Second, I remember my talk with M. Thatcher on the question of the English forces, when she tried to convince me of roughly the same idea, that these are forces independent of NATO. I cited her letter sent to the head of the Joint Chiefs of Staff where it says that she appreciates the work done by the American side to re-equip and modernize the English forces and thanks you for that. The English do not hide the fact that their forces are integrated into NATO. That is known in the Soviet Union, and it is known to you. We are not at a press conference, but rather in a small group in conversation, Mr. President, and we should not engage in banalities. We know everything about the participation of England and France in NATO and we know which targets these weapons are aimed at, and by whom. I say this to you so frankly because we are talking about exceptionally serious, important matters.

Reagan: You and I are the leaders of the two largest nuclear powers in the world. Our nuclear forces are located in all parts of the globe. In comparison with us the forces of the other countries are purely defensive. If you and I come to an agreement to begin reducing and ultimately eliminate nuclear forces, if we stand side by side on this issue and tell the other nuclear powers that they have to eliminate their own nuclear weapons, I do not think that any of them will refuse us.

Gorbachev: I have the same opinion. I want you to understand that a unique situation has now been created for the American administration. A year ago it was not the case that the Soviet Union had advanced major compromise proposals, and certainly not 2-3 years ago. I simply did not have that capability then. I am not certain that I will still have it in a year or 2-3 years. What will happen if we do not make use of this opportunity? Reykjavik will just be mentioned in passing, nothing more. A shame that all that was missed.

Reagan: I am in the same position. It is possible that before long I will not have the powers that I do now. Why not use the time that we have and make a contribution to the creation of a world free of the nuclear threat?

Gorbachev: I believe that now, when I sit opposite you, opposite the President of the United States, I can look you in the eye with a clear conscience. We have brought far-reaching proposals. I ask you to appreciate this. One thing is needed to reach agreement, a desire on your side.

I will repeat myself once more about intermediate-range missiles. We are ready to begin negotiations on missiles in Asia. We are ready for a zero level of Soviet and American weapons in Europe without counting the English and French nuclear forces. We are ready to freeze short-range missiles and begin negotiations on them. We are taking into account

all factors, practically all of your positions, including those concerning Asia. We are ready to look for solutions right here.

Reagan: We have gotten a little carried away. You said that you are ready to reduce missiles in Asia too. I am glad to hear that.

Gorbachev: I just summarized our position: elimination of all Soviet and American intermediate-range missiles in Europe, disregarding English and French forces, a freeze on and conversation about missiles with range of less than 1,000 kilometers, and a start to negotiations on missiles in Asia. I will even say more. You put forward the formula of 100 warheads on Soviet missiles in the Asian part of the USSR and 100 warheads on U.S. missiles in America. For us this means a several-fold reduction of our missiles. But okay, if the United States is unable to offer us anything else, we agree even with that version. We agree, although we see what the situation is in Asia, what is happening in Japan, and what is happening with your own presence in the Pacific. But we are taking this final step to show that we are serious. In this case will you be ready for a Soviet and American zero level in Europe?

Reagan: We agree with that.

Gorbachev: Good. I have been waiting for you to start making concessions to me. On both the first and the second problems I was the one who made the concessions. Now I am testing you on the third question, the question of antimissile defense, and I will see whether the United States intends to move ahead to reach agreement.

So, the ABM Treaty. It can be considered that we have agreed in principle on a 50-percent reduction of Soviet and U.S. strategic nuclear forces. We have agreed to eliminate intermediate-range missiles in Europe, to freeze missiles with range of less than 1,000 kilometers and begin negotiations about them, and to have 100 warheads on missiles in Asia, several-fold less than today, and 100 warheads on intermediate-range missiles in America. These are unprecedented steps from the Soviet side. They demand a very responsible, honest approach in the realization state. They will demand very strict, rigorous controls. I will tell you directly: we will fight harder for controls than the United States does. We are beginning steps of real disarmament. We need control, and we will not agree to reduce strategic arms and intermediate-range missiles without confidence that the other side is fulfilling its obligations strictly.

If we have agreed to work on deep cuts in nuclear weapons, then we must create a situation where there should be no doubt either in fact or in mind that the other side wants to shake up the strategic stability and bypass the understandings. And from this we should have confidence that the open-ended ABM Treaty will be preserved. You, Mr. President, must agree that if we are going to reduce nuclear weapons we have to be confident that the United States is not doing anything behind the back of the USSR, and the USSR is not doing anything behind the back of the United States that would threaten the interests of the other side, degrade the agreement, or create difficulties. It follows that

strengthening antimissile defense conditions is a key challenge. We propose to take on the obligation not to use the right of parties to withdraw from the ABM Treaty for 10 years, and during this time to strengthen the ABM Treaty. When we were working up this proposal, we gave special consideration, Mr. President, to your adherence to the idea of the SDI [Space Defense Initiative]. We are agreeable, when deciding the question of not using the right of withdrawal from the ABM Treaty for 10 years, to make a note that laboratory testing in the SDI area will not be prohibited, in other words we do not touch the SDI program within the framework of laboratory experiments. I do not think that this point would greatly limit you. We know what state the corresponding development projects in the United States are in, and we know that in two or three areas you have had some breakthroughs. We know, and we ourselves are doing a few things. So the laboratory phase should not constrain you. But the 10 years of not exercising the right to withdraw from the ABM Treaty are essential to create confidence that, when deciding the problem of arms reduction, we are preserving the security of each side and are not allowing any attempts to obtain one-sided advantages by deploying space systems. In political, practical, and technical terms there is no loss for either side here.

Reagan: The United States never violated the ABM Treaty. We did not deploy a single antimissile allowed by this treaty. But the Soviet side did more than allowed under the ABM Treaty. As for SDI, when we put forward a program of strategic defense we are pursuing the objective of preserving the peace and achieving disarmament. We propose to conclude the agreement of which I spoke a great deal yesterday for the purpose of helping prevent the restoration of weapons. We are proposing a binding agreement. In our law an international obligation has priority over domestic law, and becomes American law. We will be ready to assume the obligation to share technology with the Soviet Union if SDI research reveals the possibility of building such defensive technology. We think that this will help eliminate nuclear weapons if it moves in parallel with the elimination of these weapons. Understand me, I cannot retreat from my positions, renounce what I promised our people. I am serious about sharing this technology with the Soviet Union. You see, according to our position there is no sense in viewing this technology as a threat. After all, if everyone has it then no one will be able to threaten anyone else. This system is also needed to defend against a threat from a third party or nuclear maniac. Why can't we make this part of the ABM Treaty?

Shultz: I would like to ask a question. When you, Mr. General Secretary, speak of complete elimination of nuclear weapons, as far as I understand you are tying this to a 10-year period of non-exercise of the right to withdraw from the ABM Treaty. In other words, do you think that this 10-year period will be enough for complete elimination of nuclear weapons? If you have in mind such a connection, this timetable even exceeds your plan for strategic arms and intermediate-range forces. Do you think that not a single ballistic missile should be left after 10 years?

Gorbachev: I confirm that statement made on 15 January 1986. These questions—the 50-percent reduction in strategic nuclear weapons and the question of intermediate-range missiles—relate to the first phase of our program. The next phase envisions further reduction of nuclear weapons with participation of the other nuclear powers. But the first steps, the most important and decisive ones, must be made by the principal nuclear powers in the course of 10 years. We will not retreat from this. But here is what alarms us. If we want to reach agreements—and everyone has an interest in that—then we should be determinedly interested in strengthening the ABM Treaty and consolidating the ABM rules. That is so, of course, if there are no secret intentions. The Soviet Union is in favor of this, while the United States in fact wants to weaken the ABM Treaty and revise it. That does not seem logical to us. The one who proceeds in that way will be accused by the whole world of trying to develop a large-scale antimissile system for its own egotistical purposes. I cannot go before my people with such a position, nor before the whole world. Therefore, we propose to strengthen the ABM Treaty by adding an obligation not to use the right to withdraw from it for 10 years with simultaneous large reductions in nuclear weapons. If we are talking of the permissibility of SDI research in a laboratory setting, we are going to meet half-way the President who bound himself with the corresponding obligation before his people and before the world. We are giving him this opportunity to show that his idea is alive, that we are not burying it, that the United States can continue laboratory work on SDI, but cannot go beyond the framework of research. As for the nuclear maniac, we can handle this issue somehow within the framework of the ABM Treaty too.

Reagan: I am not sure of that. And anyway, damn it, what kind of agreement are you defending? The ABM Treaty in fact permits each party to deploy 100 antimissiles in one place, leaving all the rest of the territory undefended. Our defense today is the threat of retaliation against the other. That is not defense in the direct sense of the word. If we agree not to exercise the right to withdraw from the ABM Treaty for 10 years, we will in fact force the world to live for 10 more years in fear of destruction in nuclear flames. I do not understand the charm of the ABM Treaty, which in fact it signifies guaranteed mutual destruction. We are holding a talk about elimination of missiles, about how we should no longer be threatened with the danger that some gloomy day someone will push the button and everything will be destroyed. But even when we destroy these missiles we must have a defense against others. The genie is already out of the bottle. Offensive weapons can be built again. Therefore I propose creating protection for the world for future generations, when you and I will no longer be here.

Gorbachev: Mr. President, the question of antimissile defense has a long and complex history. This idea, which was formulated in the 1972 ABM Treaty, did not arise accidentally or suddenly. It was the result of many years of debates among the leaders and experts of the United States, the Soviet Union, and other countries. They recognized that construction of a large-scale antimissile defense cannot be permitted—this would spur on the arms race in offensive weapons. If it is built, then there cannot even be talk of any

kind of decision to reduce nuclear weapons. The conclusion that the ABM Treaty is needed at the foundation of strategic stability followed long debates. We cannot set aside this conclusion.

The next point is the question of a full ban on nuclear testing. When we were thinking over our proposals, we also took the concerns of the U. S. President into account. This resulted in a formula which considers your interests and ours and combines them. What is our plan? We could give orders to our representatives to begin full-scale negotiations on a complete end to nuclear testing. During the talks each side could act as it considers necessary, in other words even conduct nuclear blasts. We tried to consider the posture of the American side here. In the first stage of the negotiations the questions of a limit on the power of the explosions and their number could be discussed, plus the 1974 and 1976 treaties and questions of monitoring. I repeat, all the time we kept the American side's position in mind and tried to combine our approaches.

And what have we heard from you? The only thing that has sounded in these considerations is the United States' own interests. You suggest talking about the problem of testing, but not about conducting negotiations on a complete end to testing. You must agree that we cannot accept arguments that consider the interests of just one side. We have reached the stage in our talks when the American side needs to meet us half-way on the questions of antimissile defense and nuclear testing. It is important for you to determine that the true interests of the American side lie in finding mutually acceptable solutions to the problems. We said that President Reagan is a man who does not like to make concessions. I am now convinced of this. But, as the American saying goes, "It takes two to tango." And it takes two to control arms, to reduce and eliminate nuclear weapons. Our national interests will not be preserved if we retreat from consideration of the interests of the other side. Therefore I invite you to a male tango, Mr. President.

Reagan: If you remember history it will be understandable why the United States does not want to ban nuclear testing without establishing proper control. There was a time when we worked side by side on this issue. There was a time when a moratorium on nuclear blasts was in effect. It was in force for 3 years. But then the Soviet Union broke the moratorium and began testing with unprecedented intensity. And then it became clear that the United States, which had observed the moratorium, was not prepared for this turn of events. Our President Kennedy stated that the United States would never again let itself be caught in such a situation. You certainly remember that the moratorium was started under Eisenhower, and ended under Kennedy. It took us a very long time then to catch up to the Soviet Union and restore our position, which we had surrendered voluntarily. But the Soviet Union used the period of the moratorium to prepare to create new types of nuclear weapons. To avoid a repetition of this situation we need to ensure reliable control. This work is not completed now. You say that you are ready to accept appropriate controls. We are ready to help you, to join you in this. But only after finishing the development of controls will we be ready to stop testing. There is a good saying to this effect: "Once burned, twice shy."

In our talk yesterday we made a concession to you when we agreed to write down a formula to the effect that the USSR and the United States will begin negotiations on nuclear testing with an agenda that should include the remaining questions of control related to the treaty. In the process of the negotiations the United States and the Soviet Union will move toward stopping nuclear testing along with a gradual, stage-by-stage reduction in nuclear weapons.

Gorbachev: That wording does not suit us. We propose to solve this question as a package, that is to begin negotiations—full-scale negotiations—on banning nuclear testing. In the first phase of these negotiations we could discuss questions of control, the fate of the 1974 and 1976 treaties, thresholds and number of blasts, but our goal should be to reach an end to all nuclear blasts. The American side, as we see, does not want to designate the topic and goal of the negotiations. It treats them as endless and puts off a solution to the problem of nuclear testing for decades. It is unacceptable to us to use negotiations as a cover for the United States, which wants to keep its freedom of action to conduct as many nuclear blasts as it wants. We are having doubts about the honesty of the U.S. position. A concern is even appearing that the American side has planned something that may damage the Soviet side. In such conditions is it necessary at all to take up the whole package of eliminating nuclear weapons—what is there to agree about here? After all, the United States is setting the goal of perfecting its nuclear weapons.

Reagan: It looks like some kind of misunderstanding has come up here. We proposed the wording in English, but obviously the translation into Russian means something else.

Gorbachev: This is not a matter of words. You know that we are talking about different things.

Reagan: No, I don't think so. Would it suit you if we changed our wording and said that the United States and the Soviet Union are beginning negotiations whose final goal is a complete end to nuclear testing? Parallel with this the United States and the USSR would carry on a reduction of nuclear weapons, and this activity would occur in such a way as to be combined with a reduction of and end to nuclear testing.

Gorbachev: I do not object to having our experts sit down and work out a formula. The main thing is for it to be clearly reflected that the USSR and the United States are beginning negotiations on a complete and universal end to nuclear testing. Any possibility of circumventing maneuvers here must be precluded. A complete ban on testing as the subject of negotiations and the right of the parties to conduct testing during the negotiations. During the negotiations it would be possible to decide the questions of controls and all the other components part of the problem—thresholds, the 1974 and 1976 treaties, and number of blasts. That is in the first stage. But in the final stage we are already reaching right up to a ban on nuclear testing. I am saying all this openly and directly. The question is too serious for us to try any tricks here.

Reagan: Judging by what you just said, the foundation of all the problems that we are running into is your conviction that we are trying to gain some kind of advantage for ourselves and that we feel hostility toward you, and even that we have in mind some kind of hostile actions in relation to you. I say this with regret, but I have to refute you: it is not true. We do not have any hostile intentions toward you. We recognize the differences between our systems, but we think that our countries are entirely capable of living in the world as friendly rivals. I understand that you do not trust us, just as we do not trust you. But I am convinced that historical facts are on our side. Long ago Karl Marx said...

Gorbachev: Well, earlier the President referred to Lenin, and now he's moved on to Marx.

Reagan: Everything that Marx said, Lenin said it too. Marx was the first, and Lenin was his follower. And they both said that for the success of socialism it must be victorious throughout the world. They both said that the only morality is that which is in keeping with socialism. And I must say that all the leaders of your country—except you, you still have not said such a thing—more than once stated publicly, usually at party congresses, their support for the proposition that socialism must become worldwide, encompass the whole world, and become a unified world communist state. Maybe you have not managed to express your views on this yet, or you do not believe it. But so far you have not said it. But all the others said it!

And how can we overcome our mistrust of you if even during World War II when we were fighting together, you did not want to allow Allied bombers flying from England to land in your country before making the return flight?

And what happened after the war's end? Beginning in 1946 we made 19 proposals at various international conferences to eliminate nuclear weapons. At that time we were the only country in the world with nuclear weapons. But you did not want to participate in the realization of our proposals. A little later the USSR deployed missiles on Cuba, 19 miles from our shores.

I could continue, give other examples of similar steps in a policy which illustrates your conviction of the world mission of socialism. Naturally, this cannot help but arouse our suspicions that you have hostile intentions in relation to us. You, however, have no facts that indicate that we, our people, are yearning for war. There could not be anything more untrue. No one in our country wants our world and freedom to be disrupted by war. I am sure that your people do not want war either.

Gorbachev: So you are talking about Marx and Lenin again. Many people have already tried to bring down the founders of this well-known line of social thought. No one has been able to do this, and I advise you not to waste time on this.

It is better for us to recall what you and I talked about earlier, and it seems that we have the same opinion on this. We recognize that the American people have a right to select their own social system and their own values. We also have our own system, which we like, while some do not like it. But each people and all peoples have the right to decide how

to manage things in their own country, what kind of government to have, and what kind of president to elect. I am sure that any other approach would not get us far. And therefore I was very surprised when I heard that just before our meeting in Reykjavik you stated in your speeches that you remained loyal to the principles set forth by you in your speech at Westminster Palace. And in that speech you said that the Soviet Union is the Evil Empire, and called for a crusade against socialism in order to drive socialism onto the scrap heap of history. I will tell you, that is quite a terrifying philosophy. What does it mean politically, make war against us?

Reagan: No.

Gorbachev: But that is exactly what you said as a kind of introductory word before Reykjavik. What kind of hint is that to me? I did not want to recall this at all, but you were the first to start talking about that kind of problems.

Reagan: The difference between us has always been and still is that we in the United States have a Communist Party whose representatives can vote in elections and even hold certain elected positions and propagate their philosophy, while you do not have anything like that. Instead of trying to convince people that your ideas are right, you impose these ideas and therefore groups of people in the "third world" now and then seize power and the communist party gets a monopoly of power. In our country you can set up any party; it will operate legally and put forward its own candidates. You do not have, say, the Democratic or Republican party; you have one party, and a minority of the people belong to it, for you do not let the majority join. That is our difference. We think that only the people themselves can determine what kind of government they would like to have.

Gorbachev: Mr. President, if you want to carry on such a broad debate on political, ideological, and ethical issues, I am ready for it. And I want to tell you that what you said is very far from the true state of affairs and testifies to enormous differences in our initial ideas. But still you and I agree, in my opinion, that each of our countries can have its own political system and its own ideological ideas; we do not infringe on your religion, and so on. Therefore, wouldn't it be better to stop this argument and return to the issues which we did not complete.

Reagan: Yes, I think so. Let's return to the question of wording.

Gorbachev: I do not want to argue with you, and I respect your independent nature, and your views and ideas. And I am convinced that if you and I have different ideological ideas, that is not a reason for us to shoot at one another. On the contrary, I am convinced that in addition to political relations purely human relations between us are possible also.

Reagan: Unquestionably. And I would even like to try to convince you to join the Republican Party.

Gorbachev: An interesting idea. Incidentally, before the revolution in our country, and after it too, there were many political parties. But today there is indeed just one. That is the result of a definite historical process.

Let us return to the wording. Let's see if we can't find something that would bring our positions together.

Shultz: I think that we have the beginning of a statement—this is the wording on which our representatives worked during the night and which reflects our agreement on the question of strategic arms, which was reached in principle between the two leaders. I think that similar wording can also be found in relation to intermediate-range nuclear weapons. As for questions from the areas of space, antimissile defense, and SDI, in these we have not reached agreement but have, I think, held useful discussions.

Gorbachev: Perhaps we can write it this way: the parties recognize and affirm the conditions of the unlimited ABM Treaty and obligate themselves to observe its propositions strictly.

Shultz: We did not reach agreement on this question, but we to some extent identified the nature and areas of our disagreements. This does not touch the question of observance of the treaty—incidentally, we are observing it completely—but rather raises other aspects, including time and others.

Gorbachev: But you know, in the context of our understanding on a 50-percent reduction in strategic arms and a reduction in intermediate-range missiles, a statement of the parties that the parties will strictly observe the permanent ABM Treaty simply suggests itself.

Shevardnadze: I have a question. Is your approach to the question of time of withdrawal from the treaty still in force? I understand that you and we place different interpretations on what would happen within the time when we did not use our right to withdraw from the treaty. And different time periods are being proposed. You are proposing 5 or 7 years, while we propose 15. But in general, is your approach still in force?

Shultz: The President in his letter proposed a two-stage approach to this issue. And the President's proposal remains in effect.

Gorbachev: So, as I understand it, you do not agree with the 10-year period?

Shultz: We have proposed wording which would make it possible to reflect the situation that has developed. It has three aspects. We propose that the two leaders instruct their delegations to study carefully the following substantive questions in order to overcome the disagreements that now exist. In the first place, this means the question of how study of the possibility of creating a long-range strategic defense can be synchronized with realization of our common goal: elimination of ballistic missiles. Both sides say that these questions are interrelated. We propose that this question be studied more thoroughly. In the second place, this means the question of the conditions and times within which the two sides could examine the possibility of a transition to greater reliance on strategic defense.

Gorbachev: We know that you plan to deploy SDI. But we do not have such plans. And we cannot assume an obligation relative to such a transition. We have a different conception.

Shultz: I would like to mention also the third question, which we included because you emphasize it so much. This is the situation which would exist until the time when the conditions indicated above were realized. The question is: what general understanding can the parties reach relative to the restrictions imposed by the ABM Treaty on activity related to creating a long-range strategic defense?

The President stated to you and the whole world that he will not renounce the SDI program. You do not agree with that. But as I understand it, you recognize his problem and that he is trying to meet your concern half-way.

Gorbachev: But I think that I am even helping the President with SDI. After all, your people say that if Gorbachev attacks SDI and space weapons so much, it means the idea deserves more respect. They even say that if it were not for me, no one would listen to the idea at all. And some even claim that I want to drag the United States into unnecessary expenditures with this. But if the first ones are right, then I am on your side in this matter, but you have not appreciated it.

Reagan: What the hell use will ABMs or anything else be if we eliminate nuclear weapons?

Gorbachev: Absolutely right. I am for that. But the point is that under the ABM Treaty the parties do not have a large-scale antimissile defense, and you want to deploy such a defense.

Reagan: But what difference does it make if it is not nuclear weapons? What difference whether it exists or not?

On the other hand, you know that even in this situation we will not be able to guarantee that someone will not begin to make nuclear weapons again at some point.

Gorbachev: Mr. President, you just made a historic statement: What the hell use will SDI be if we eliminate nuclear weapons? But it is exactly because we are moving toward a reduction and elimination of nuclear weapons that I favor strengthening the ABM Treaty. In these conditions it becomes even more important. As for your arguments about the madman who decides to resort to nuclear weapons, I think that we will be able to solve that problem. It is not that serious.

Reagan: It appears that the point is that I am the oldest man here. And I understand that after the war the nations decided that they would renounce poison gases. But thank God that the gas mask continued to exist. Something similar can happen with nuclear weapons. And we will have a shield against them in any case.

Gorbachev: I am increasingly convinced of something I knew previously only second-hand. The President of the United States does not like to retreat. I see now that you do not want to meet us half-way on the issue of the ABM Treaty, which is absolutely essential in conditions where we are undertaking large reductions in nuclear arms, and you do not want to begin negotiations on stopping nuclear testing. So I see that the possibilities of agreement are exhausted.

Reagan: It seems to me that we have agreement on the question of nuclear testing.

Shevardnadze: I would still like to return to the question of the ABM Treaty. Perhaps we can set aside certain issues that I would call ideological and agree to set times within which the parties would not exercise their right to withdraw from the treaty.

Gorbachev: It seems absolutely axiomatic to me that if the parties are undertaking deep reductions in nuclear weapons, there must be an atmosphere of confidence, and to achieve that the conditions of the ABM Treaty must be toughened.

Shevardnadze: And periods of mandatory observance named.

Gorbachev: If we were to agree that such a period would be 10 years, it would be possible to carry out major reductions of nuclear potential during this period.

Shevardnadze: This is the fundamental question, for if we do not have agreement on periods of non-withdrawal from the treaty, there will be no agreement on nuclear weapons either. Then it will come out that we have not agreed on anything.

Gorbachev: I proposed a definite package and would ask you to consider it as such.

Reagan: I do not think that a link has to be established between reduction and elimination of nuclear weapons and a treaty which only restricts defense against such weapons. Incidentally, we believe that you are violating this treaty. You have built more than is allowed under it. At the same time we are fully complying with it and have not built more than allowed under the treaty.

Gorbachev: So on two issues you and I now have a common position. On the others we have had an interesting exchange of opinions, but did not reach a unified opinion. I think that we can conclude our meeting with this. It still has not been in vain. Granted that it did not produce the results which were expected in the Soviet Union and the United States, which I expected, but we must take account of the realities. And the reality is that we are unable to work out agreed-upon proposals on these issues. You and I talked about the possibility of major reductions in nuclear weapons; but if the fate of the ABM Treaty is unclear, then the entire conception collapses and we return to the situation that existed before Reykjavik.

Perhaps you will report this to Congress, and we will report to the Politburo and the Supreme Soviet. I do not think the world will stop. Events will unfold, and neither will our relations stop. But we will not succeed in taking advantage of the present opportunity to give a strong impetus in the main areas of our relations.

Reagan: I thought that we had agreement on the 50-percent reduction and on intermediate-range missiles. In addition we can continue discussion of the question of ABM's and restricting testing. On this issue we think that as nuclear weapons are reduced we would come to stop nuclear testing. How could it not be? How can we go away from here with nothing?

Gorbachev: Unfortunately, we in fact can. Of course, we have not discussed humanitarian issues yet. Perhaps we should talk about them? In addition there are the regional problems, in general the problems which the second working group discussed.

Reagan: Yes, it is my understanding that this group reconciled the proposals which were delivered to us.

"Having examined the state of affairs in a number of important areas of bilateral Soviet-American cooperation, the General Secretary of the CPSU Central Committee and the President of the United States agreed to assign their ministers of foreign affairs to give an additional impetus to mutual efforts to achieve agreements in those areas where the positions of the two countries have a common foundation. Among these areas are nonproliferation of nuclear weapons, creation of centers to reduce the nuclear peril, bolstering the safety of the nuclear power industry, peaceful use of space, the fight against international terrorism, and international cooperation in the area of thermonuclear synthesis.

"Humanitarian problems and questions of human rights were also discussed. The parties presented their corresponding positions and expressed willingness to continue the exchange of opinions on these issues.

"The leaders of the two countries discussed regional problems, including their impact on relations between the USSR and the United States. The parties expressed their support of peaceful political settlement of regional conflicts. They assigned the ministers of foreign affairs to continue and broaden the dialogue on these problems.

"The parties agreed on the following:

- "continue regular consultation on the question of nonproliferation of nuclear weapons;
- "in the near future begin negotiations on the establishment of national centers in Moscow and Washington to reduce the nuclear peril and their functions;
- "continue bilateral contacts within the IAEA framework to facilitate the Agency's work to ensure safety in the development of nuclear power engineering;
- "intensify practical efforts on a bilateral and multilateral basis to establish cooperation in the development of thermonuclear synthesis, a promising energy source. Instruct each side's experts to meet by 1 November of this year to review the results of each side's study of the possibilities of cooperation in this area and discuss subsequent steps;
- "give instructions to each side's delegation to develop and prepare for signing the text of an intergovernmental agreement on cooperation in the peaceful development of space;
- "agree no later than 20 October of this year on the time and place for preliminary discussions relative to renewing the agreement on transportation or concluding a new one and, possibly also the agreement on power

engineering and pure sciences, as well as the agreements on search and rescue at sea and cooperation in the field of radio navigation;

- "discuss the concrete possibilities of bilateral cooperation as well as participation in international activities aimed at eliminating all forms of terrorism and ensuring the safety of ground, air, and maritime travel; hold bilateral consultations to prevent terrorist acts;
- "resolve practical issues linked to the opening of general consulates of the parties in New York and Kiev, respectively;
- "instruct the delegations of the two sides to step up work to achieve a mutually acceptable understanding concerning border lines in the maritime spaces of the Arctic and Pacific Oceans and the Chukchi and Bering Seas;
- "instruct their representatives to work out common positions to give the status of an agreement to the existing understanding on the CAPCAT search and rescue system;
- "resolve through diplomatic channels the question of setting up a commission to examine bilateral issues;
- "determine the practical possibility of discussing humanitarian questions within the framework of the expert consultations being conducted between the two countries."

It is true that nothing is said here about one issue, human rights. I do not want to make any demands on you relative to reunification of families, emigration, the status of believers, and so on. But I would like you to understand that this is a fundamentally important factor in determining the degree to which we will be able to cooperate with you in important areas. Our public opinion, owing to the ethnic roots of our people, attaches enormous importance to this, and that is a reality that must be considered. That is why the reduction in the rate of emigration causes such concern in our country. We are giving you a list of persons who we know have expressed a desire to emigrate, but have not received permission. We hope that you will soften the restrictions. We will not brag that we got this done; we will just thank you for such a decision.

Gorbachev: It is a shame, Mr. President, that you and I do not have enough time to discuss humanitarian issues. We have concrete ideas on this which we simply are not going to have time to discuss. I have to say that people in the Soviet Union are very concerned about the human rights situation in the United States. There is one other important subject. This is the importance of mutual information in our day. The situation now is this: the Voice of America broadcasts around the clock in many languages from stations that you have in various countries of Europe and Asia, while we cannot present our point of view to the American people. Therefore, to achieve parity, we are forced to jam Voice of America broadcasts. I propose the following: we will stop jamming Voice of America and you will be able to broadcast what you consider necessary to us, but at the same time you will meet us half-way and help us lease, from you or in neighboring countries, radio stations that would allow us to reach the American people with our point of view.

Reagan: The difference between us is that we recognize freedom of the press and the right of people to listen to any point of view. This does not exist in your press. Today in Washington there will be a press conference, and Americans will see it, and newspapers will publish the text of it. It is not that way in your country. Your system envisions only a government press.

Gorbachev: But I asked a concrete question. I proposed that we can stop jamming Voice of America if you will meet us half-way and give us an opportunity to lease a radio station from you or lease or build a station in one of your neighboring countries.

Reagan: I will consult about this when I return to the United States, and I will take a favorable position.

Gorbachev: We are for parity in general. In the information field, for example, or in film. Almost half of the movies showing in our theaters are American. Soviet movies are hardly ever shown in the United States. That is not parity.

Reagan: We do not have any ban on your movies. The film industry is a free business, and if someone wants to show your films he can do it.

Gorbachev: I see that the President avoids this question and goes into talk about business.

Reagan: Our government cannot control the film market. If you want to inundate us with your movies, go right ahead. How our movies get to your country, I do not know.

Gorbachev: It is an interesting situation, simply a paradox. In your country, the most democratic country, obstacles arise to showing our movies, while in our country, a totalitarian country, almost half the movies being shown are American. How can you reconcile this, that the Soviet Union is an undemocratic country but your films are being shown?

Reagan: There is a difference between free enterprise and government ownership. You have no free enterprise, everything belongs to the government and the government puts everything on the market. In the United States we have private industry, and other countries have the right to sell their goods, movies, and so on. You have the right to set up a rental organization in our country to distribute your movies, or to lease some theater. But we cannot order it.

Gorbachev: One more question. There were two television bridges between the USSR and the United States recently. One involved the participation of the communities of Leningrad, Copenhagen, and Boston, and the other had Soviet and American doctors. In our country they were watched by 150 million people, but in the United States they were not shown.

Reagan: The only thing I can answer is that the movie theaters and all belong to your government, and you show what you want to in them. But our government cannot compete with private business.

But I want to tell you that your performing groups, such as the Leningrad Ballet, draw an enormous crowd in the United States, and they are shown on television too. But if

you want to show other things too, please do. We have leasing companies, and theaters which show foreign films.

Gorbachev: Mr. President, we have quite a few complaints about the United States. Here is the last question. For 30 years now you have refused to let our trade union figures enter the United States. Mr. Shultz simply does not give them visas. Where is the parity here? You know, your trade union figures come to the USSR and have interesting professional contacts and meetings with workers. But you do not let our people in. In your country, which is so self-confident, they are viewed as subversive elements.

Reagan: I would like to look into this. Maybe I will have some proposals on the film problem that you mentioned.

Gorbachev: Good.

Reagan: One more thing. I cannot return home and say nothing to our farmers on the issue that is so important to them. Why didn't you fulfill your obligation relative to grain purchases from us?

Gorbachev: It is very simple. You can tell them that the money with which the Russians could have bought grain ended up in the United States and Saudi Arabia because of the sharp drop in oil prices. So the United States already has this money.

Reagan: The oil business in the United States suffered greatly from the drop in oil prices. Many countries suffered because of the OPEC actions.

Gorbachev: We know that. We know who began this process of cutting oil prices, and whose interests it is in.

Reagan: This point is that the oil industry in most countries of the world is private, but in the OPEC countries it belongs to the government. They want to dominate the market and drive others out. That is why they resort to such actions.

I have one more question. I received a letter from the prominent cellist, your former citizen M. Rostropovich. In it he included a copy of a letter sent to you by ordinary mail. It appears that you did not receive it. He asks you to help his sister and brother travel to the West for 2 months so that they can participate in the celebration of his birthday.

Gorbachev: I read that letter and gave it to the appropriate organs with a request to help Rostropovich's relatives travel to his birthday. I think that this matter has already been resolved.

Reagan: You see, you have your own bureaucracy, just like I have mine. In any case, he did not receive an answer.

Shevardnadze: His relatives know that their trip has been authorized.

Gorbachev: I remember his letter. One more thing he wrote there was that he did not know if it would reach me.

Well, Mr. President, "X-hour" is approaching. What are you going to do?

Shultz: I have tried to write a text here that reflects what we agreed about, on strategic weapons and intermediate-range missiles, as well as our disagreements on the issues of space

and ABM's. In this area I suggest that we write that the President and the General Secretary discussed issues related to the ABM Treaty, long-range strategic defense, and its interrelations with the levels of offensive ballistic missiles. The discussion was intensive and thorough. They are instructing their delegations in Geneva to use the materials from their discussion to move ahead in their work.

Gorbachev: That is not acceptable to us. What else do you want to write?

Shultz: Something also on the issue of intermediate-range missiles.

Gorbachev: But on that issue everything is clear.

Shultz: But the understanding needs to be set forth.

Gorbachev: Maybe, if the President does not object, we will declare a break for 1-2 hours and during that time, possibly, our ministers will try to propose something. I think that we can slow down a little. After all, we do not want everything to end with a facade.

Shultz: I think that we can reach agreement on nuclear testing, find some formula.

Shevardnadze: I think so too. But the main thing is that we need a fundamental decision concerning a period of non-withdrawal from the ABM Treaty.

Gorbachev: It is exceptionally important to reaffirm the ABM Treaty. Then we can substantiate the risk that we are taking in questions of strategic weapons and intermediate-range missiles. And so, if the President does not object, we will take a break until 1500 hours.

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RUSSIA

Foreign Ministry Voices 'Satisfaction' With Geneva Testing Ban

LD1108131993 Moscow ITAR-TASS in English
1305 GMT 11 Aug 93

[By ITAR-TASS diplomatic correspondent Leonid Timofeyev]

[Text] Moscow August 11 TASS—Moscow regards with great satisfaction a decision taken by the Geneva disarmament conference on Tuesday to start multilateral talks on drafting a verifiable treaty on the all-embracing prohibition of nuclear tests, says a statement by the Russian Foreign Ministry circulated here on Wednesday.

The document says that the Russian side is ready for serious talks on the issue as soon as its partners are ready for them. "We believe that we should not lose time in this case," the document stresses.

The moratorium on nuclear explosions announced by Russia and supported by the United States expired on July

1. On July 5, Russian President Boris Yeltsin decided to extend it unilaterally as long as it is observed by other nuclear powers.

Opinion is wide-spread in Russian diplomatic circles that the continuing moratorium has created a favourable situation to start serious talks. Moscow also takes into account the task of strengthening the nuclear non-proliferation regime.

Moscow ABM Defense System Described

PM2608145993 Moscow IZVESTIYA in Russian
25 Aug 93 First Edition pp 1,6

[Viktor Litovkin article: "Underground Missile 'Company' Protects Capital Around-the-Clock. IZVESTIYA Describes Moscow's ABM Defense System for First Time"]

[Excerpt] In Sofrino near Moscow, a few kilometers from the church of Boyar Saltykov's household there is a gigantic structure in the forest surrounded by barbed wire, a structure about the height of a seven-story apartment block, very similar to a truncated Cheops pyramid. Mushroom pickers and dacha owners, who stumble across it and signs bearing the menacing inscription "Stop! No Entry! Prohibited Area" try to get away from this dangerous spot as quickly as possible, making guesses as to what it might be....

Only a very limited range of people know for sure that this is the Moscow ABM defense system's engagement [strelbovaya] radar. Today we talk about ABM defense under the rubric "Russia's New Weapon."

Our press has never before given details of it. However, the American Tom Gervasy [transliteration] in the book "Soviet Military Power" published by the Pentagon in 1989 wrote:

"The Soviet Union has begun to update and modernize the ABM defense system around Moscow since 1978. This single-layer system incorporated 16 (originally 64) Galosh reloadable surface launchers and Dog House and Cat House battle management radars south of Moscow. The four launch complexes comprise tracking and guidance radars and four exo-atmosphere interceptors (ground-launched nuclear-tipped missiles designed to intercept the enemy's missiles before they enter the earth's atmosphere).

"The new ABM defense system around Moscow will be a two-layer system, comprising sophisticated long-range silo-housed Galosh antimissile missiles, silo-launched high-acceleration [bystrostartuyushchiy] exo-atmosphere Gazelle missile interceptors—probably nuclear-tipped—(designed to hit targets in the atmosphere), guidance, fire control, and battle management radars, including a new large phased array radar oriented in four directions in the city of Pushkino north of Moscow..."

Anatoliy Basistov, general designer of the Moscow ABM defense system, would not comment on this information. He merely said that his brainchild is totally in line with the USSR-U.S. ABM Treaty concluded in 1972 and protects the capital for sure from a group of ballistic missiles and their nuclear warheads [boevyye bloki] that may come in its direction.

"The system will not allow a single nuclear explosion dangerously close to Moscow," Anatoliy Georgiyevich said. "It has been designed to automatically detect warheads in flight without human involvement, distinguish them from clutter—decoys or combined ABM countermeasures—and destroy them unerringly in the air, preventing the charge from detonating..."

What does the capital's ABM defense system comprise?

The engagement radar with which we began our description and which you can see on the photograph. Its chief designer was Doctor of Technical Sciences Professor Viktor Sloka (this is the first time that IZVESTIYA readers have been introduced to him and to Anatoliy Basistov). The "pyramid" oriented to the four corners of the globe with antennas 16 meters in diameter is perhaps one of the main components in the system. It is this pyramid that is designed to detect and intercept ballistic missiles, track them, and guide antimissile missiles to their targets.

The radar was developed in the late eighties. Officer crews are on around-the-clock alert duty there. But their task, Basistov told me, is only to supervise the radar's work and perform routine maintenance. The "pyramid" is fully automated and is even able itself to replace unserviceable instruments and assemblies with reserves.

The radar is serviced by a highly-productive computer (around a billion operations per second). It enables the "space wars" algorithm to be tracked in real time, that is second by second, at the same time as events are happening. And the radar building contains radioelectronic equipment, powerful refrigeration and ventilation units that maintain a set temperature, an autonomous electric power grid, and other technological systems, the specialists say.

The missiles are of course the most important component of ABM defense. That is, the Galoshs and Gazelles that Tom Dzhervasi mentioned. But they have a quite definite technical classification. The former—its chief designer was Lev Lyulyev of the Yekaterinburg "Novator" MKB [expansion not given - "kb" can mean design bureau], who has now been replaced by Pavel Kamnev—for exoatmosphere interception and the latter for combat in the upper atmosphere, developed by Academician Petr Grushin from Khimki's "Fakel" MKB. The latter is now led by Vladimir Svetlov (IZVESTIYA, No. 104).

"Fakel's" first antimissile missile, the V-1000, destroyed a ballistic missile warhead 4 March 1961 and, as Khrushchev said, hit it "right between the eyes." The Americans only did that 13 years later. That missile had an average speed of 1,000 meters per second, that is three times the speed of sound.

Today's missiles fly 10 times the speed of sound. And that is not the limit for them.

I saw the "Gazelle." Admittedly, we were not allowed to photograph it. It was said to be secret. Although I simply could not see what was special about its external appearance: A missile is a missile, only without "wings" [krylyshki] and stabilizing fins [rul-stabilizator]. I was told that, apart

from being superfast, it is also very smart and can... I cannot repeat that here—it is a secret.

But I also have a question. Over the last 10 years the Americans have been keeping a very careful eye from space on the tests of this missile at the Sary-Shagan test range and on Lake Balkhash. They are evidently familiar not only with its external appearance, but also with its parameters, albeit approximate. But we are still not allowed to know about this.

But it is no secret that there are no more than 100 of Lyulyev's and Grushin's missiles on alert (the number is limited by the ABM Treaty) and they are within 150km of the center of Moscow in underground silos. The launch silos were developed under the leadership of Academician Vladimir Barmin, who died recently.

The antimissile missile silos are not camouflaged—camouflage is also prohibited by the treaty. But they are protected quite securely from a direct hit and from terrorists. What is more, they are guarded carefully. I do not advise you to get within firing range of them—it is dangerous.

In addition to the launchers the ABM defense system must undoubtedly logically include ballistic missile early warning systems although they are officially separate. The reader probably knows what I am talking about—the well-known phased array radars in outlying regions of the former USSR. Pechora in the north, Skrunda and Beregovo in the west, Nikolayev, Mingeaur, and Balkhash in the south, Primorye in the east... And of course artificial earth satellites—radiotechnical, optical, electronic reconnaissance, communications, and information satellites...

In conjunction with the command post and the high-speed, highly-productive automatic control systems they form a full ABM defense complex, which even today, at a time of profound crisis for the country and the army, helps us feel fairly calm. [passage omitted]

Speculation on Need for Weapons Limitations

93WC0095A Moscow SEGODNYA in Russian No 39,
3 Aug 93 [Signed to press 02 Aug 93 p 10] p 10

[Article by Vladimir Belous: "New Weapons—New Dangers"]

[Text] *Influence on the psychology of the opponent—individual, collective, and mass—may become the main goal of the Military Conflict. This creates the possibility of the transition from the direct confrontation of armies to methods of concealed, undeclared warfare. The results of the use of some types of weaponry may have a direct effect at once after its use and on the contrary—after many years.*

The development of nuclear energy by mankind has laid the foundation of the scientific-technical revolution of the 20th century. However, as has already happened before in the history of science, the results of basic research in the sphere of physics found application above all in the military sphere.

For the first time in the history of civilization the question of the preservation of the immortality of mankind arose on the practical plane.

The understanding of the reality of the growing threat confronted the world community with the necessity of adopting a number of prohibitions and restrictions on weapons of mass destruction. International agreements were concluded on the prohibition and destruction of the supplies of chemical and biological weapons, a number of Soviet-American agreements on the limitation and reduction of nuclear arms, and an agreement on the non-proliferation of nuclear weapons. However, against the background a new threat arose imperceptibly—the possibility of the creation of fundamentally new types of weapons of mass destruction (WMD).

In foreknowledge of this threat, the United Nations Commission on Arms already in 1948 warned the world community about the possibility of the appearance of these "trans-nuclear" weapons systems, the destructive operation of which may be comparable with already known types of WMD. The lack of prohibitions on their development, along with the restrictions on existing types of WMD, "channeled" the directions of the research of scientists in a number of countries into the search for new means of mass destruction.

The use of new types of WMD (if this will happen) will be aimed above all at the attainment of the most important political and economic goals, it is possible, even without the direct contact of troops of the opposing sides and without the conduct of military actions in the traditional understanding. The influence on individual, collective and mass psychology of the enemy may become the main goal of a military conflict. This will create the possibility of the transition from the direct confrontation of armies to methods of concealed, unannounced war. The results of the use of some types of weapons may have a direct effect at once after its use and on the contrary—after many years.

In particular, scientists are warning about the danger connected with the possibility of the creation of "geophysical weapons," at the basis of the operation of which lies the use of means calling forth natural disasters—earthquakes, avalanches, tsunami, and the destruction of the ozone layer of the Earth. We know of the first attempts to stimulate cumulo-nimbus rains for the destruction of irrigation installations and the creation of floods in vast territories, which were undertaken by the United States at the time of the war in Vietnam. The seeding of aerosols of iodine-containing silver with the help of airplanes led to abundant fall-out in the Western region.

Through the underground explosion of powerful nuclear charges it is possible to call forth earthquakes in regions where there exist significant stresses in the earth's crust. With the help of the explosion of nuclear charges in the equatorial seas and oceans it is possible to stimulate the formation of enormous waves of the tsunami type, which are capable of coming down on coastal regions and inflicting great destruction and causing the massive death of the population.

The successes in genetic engineering attained during the past few years have opened up the possibility of massive influence on the genetic apparatus of the mechanism of heredity of living organisms, including man, with the help of specially developed agents. This influence may remain unnoticed by the affected person, but his descendants will turn out to be inferior. In the final analysis, with the massive use of such weapons the degradation and gradual extinction of the population of a given region can begin.

Some scientists are proposing that, as a result of further research in the sphere of the molecular biology of microorganisms and higher organisms, by the year 2000 toxins of human origin can be obtained which will be suitable as genetic weapons.

The study of the natural and genetic difference between people in their delicate biochemical structure has shown the fundamental possibility of the creation of the so-called ethnic weapon. In the opinion of scientists, such a weapon can destroy through special agents some ethnic groups of the population without doing harm to others. At the basis of such selectivity are differences in blood groups, skin pigmentation, and genetic structure. One of the leading American medical experts, R. Khameshlag [Hameshlag?] has calculated that, in case of the use of the ethnic weapon in any region, the population losses can reach 25-30 percent. Let us recall that such losses in a nuclear war are considered to be "unacceptable," that is the kind that would result in the destruction of the country.

The investigation of the influence of electromagnetic waves of high frequency on the organism of man has shown that, in case of irradiation, various disturbances and changes take place in them. In particular, the pernicious influence of electromagnetic irradiation of the cardio-vascular system has been established—it calls forth the disturbance of the rhythm of heart contractions, right up to the stoppage of the heart. These functional, "non-thermal" disorders arise already in the case of small strengths of irradiation output. In the case of large strengths the heating of the tissues and organs of man takes place, and in the case of sufficiently long irradiation irreversible pathological changes can take place.

The influence of infra sound waves, not perceptible to the human ear, can exert a strong destructive effect on the human organism. These sound vacillations are capable of calling forth constant anxiety, despair, and even terror. According to the assessments of some specialists, the influence of such low-frequency vacillations can cause epilepsy and various functional disorders. Through the selection of the frequency of irradiation it is possible to stimulate the destruction of various organs and cause the massive illness of the personnel of the troops and population of the enemy through myocardial infarction. In the case of large strengths of irradiation, a lethal outcome may be attained as the result of sharp disturbance of the functions of the organism and the destruction of the blood vessels and internal organs. In so doing, infra sound vacillations possess a high penetration capability and can penetrate through concrete and metal obstacles.

Soon after the creation of lasers by Soviet and American scientists, specialists started to examine the possibility of their military use. With great strength of laser irradiation it is possible to secure the thermal burning of bones in man, the blinding of the visual organs, and damage of the sensitive elements of weapons. The effect of laser irradiation on the battle field will be distinguished by suddenness, secrecy (absence of tell-tale signs in the form of fire, smoke, sound), high precision, and practically instantaneous action. Laser military complexes may be of the most diverse purposes and ground, sea, air and space based. They may differ among themselves in terms of the strength of irradiation, range of operation, rate of fire, and duration of effect.

Already in the 1960's theoretical research was done in the United States connected with the possibility of the dislocation, from its orbit, of one of the asteroids moving between the Earth and Mars. This can be done with the help of the explosion of powerful thermonuclear charges in a charge chamber specially created for them (a kind of rocket engine). During the fall of such an asteroid on the territory of the enemy, energy will be emitted that is equivalent to the explosion of millions of nuclear bombs. This energy will be sufficient to transform a whole continent into a lifeless desert.

The development of the mass media, especially the electronic ones, creates objective prerequisites for their broad use for military purposes. Already today it is generally recognized that nuclear weapons cannot be weapons of war. In the conditions of densely-populated, urbanized Europe, the same fate will gradually overtake even conventional arms, especially heavy ones: Tanks, armored vehicles, airplanes, and guns. The center of gravity of military confrontation will increasingly move into the sphere of intellectual influence on the consciousness and feelings of millions of people.

Having placed space relay stations into near-earth orbits, the aggressor country will be able to develop and in certain conditions carry out the scenario for an information war against one state or another, trying to undermine it from within. Such broadcasts will be aimed above all not at reason, but at the emotions of people, at their sensual sphere, which is significantly more effective, especially in the case of a population with a political culture that is not very high, not very well informed, and unprepared for such a war. The well-measured supply of ideologically and psychologically polished provocative material, the skillful alternation of true ("credit of trust") and false information, and the skillful assembly of details of various fictitious highly-explosive situations may become transformed into a powerful means of psychological attack. It can prove itself especially effective against countries in which there exist socio-economic tension, inter-nationality, religious, or class conflicts. Carefully selected information falling on such fertile soil may within a short period destabilize the situation, call forth panic and mass disorders, and destroy the political structure of the state.

In the distant 1898, one of the uncrowned kings of the "yellow" press in the United States, "grandfather Hurst" summoned his staff members and gave them an unexpected directive:

"Publish pictures of the beginning of the war between the United States and Spain."

"But you know, the war has not yet started," his subordinates replied in astonishment.

"Publish the pictures, and it will start," countered Hurst. And indeed, the fabricated pictures helped to undermine the fragile peace between the two countries. This was one of the first experiments in the use of the mass media for military purposes. During the last decades, these possibilities have immeasurably increased.

Scientists warn about the possibility of the military use of superheavy elements, which today are not yet known to science. Some of these transplutonium elements may have a significant period of half-decay, more than 10 years, and a critical mass from 25 to 500 grams. This means that then it will become possible to create a bullet for light and heavy firing arms whose capacity will be equivalent to the explosion of dozens and hundreds of metric tons of trinitrotoluene.

Even the short and by no means complete enumeration of new possible types of weapons of mass destruction cited shows the enormous danger, which already in the near future may confront mankind with the threat of self-destruction. The world community, preoccupied with numerous regional and inter-nationality conflicts shaking the planet, must nevertheless create a reliable covering force on the way to the creation of new, still more highly sensitive types of weapons of the future. In so doing, the by no means rhetorical question arises: What should be understood by weapons of mass destruction? By what criteria is it necessary to assess this or that type of new weapon to consider them weapons of mass destruction or conventional arms? As research shows, to answer these questions is by no means simple. It is necessary for all states, and first of all for the leading ones, to conclude an agreement on the prohibition of the development and production of new types and systems of weapons of mass destruction, under strict international control.

Post-Cold War Fate of NORAD Pondered

93WC0105A Moscow KRASNAYA ZVEZDA
in Russian 19 Aug 93 First edition p 3

[Article by M. Ponomarev: "Yesterday Bombers, Today Deer Herds"]

[Text] NORAD—the North American Air Defense command—has now been in existence for four decades. Established in the years of the "cold war" through the combined efforts of the United States and Canada, it was called upon to protect these countries against a Soviet attack from the air and later from space out of the north across the Arctic.

Initially the core of the entire NORAD system was an early remote warning line that was completed back in 1957. By the mid-1980's, however, it was obsolete, for it was unable

to track cruise missiles. In 1985, it was decided to replace it with a so-called Northern Warning System. It was planned to extend this system in the territory of Canada along the 70th parallel from Alaska to Labrador. It was supposed to consist of 11 remote-detection radar stations and 36 radar stations for close-in detection and also include four air bases for fighters-interceptors.

So far only the remote-detection stations have been put into operation under this plan. The conclusion of all the work was planned for 1994. But today it is already obvious that the construction of the Northern Warning System has lost its original meaning. The last Soviet bomber entered the zone of NORAD radar sets and was picked up on their screens in 1989 and it is now thought that with the disintegration of the USSR there is no longer any threat to the North American continent from the direction of the Arctic.

What should be done now? This is what they are asking themselves in the United States and Canada. They have installed the most up-to-date equipment and invested an enormous amount of money. Was it all in vain? They are proposing the most diverse alternatives. In Ottawa, for example, they believe that radar stations can be adapted to track the migration of deer herds in the arctic tundra. They thought up another solution in Washington—under its initiative NORAD personnel are already being trained to intercept drug traffic. True, the routes for the delivery of narcotic substances to the United States do not, as you know, cross the Arctic. But after all the personnel need to do something. And they must justify the funds that they have invested. The support of the incomplete Northern System costs Canada alone \$52 million a year. Here you will be dealing not just with drug barons and deer.

Krasnoyarsk-26 Facility Detailed

Facility Shown on Television

PM2008151593 Moscow Ostankino Television First Channel Network in Russian 1425 GMT 17 Aug 93

[From the "Ostankino Presents—Points of the Compass" program: Video report by Lyudmila Krivomazova, identified by caption, on Krasnoyarsk-26; figures in brackets denote broadcast time in GMT in hours, minutes, and seconds]

[Excerpt] [143940] [passage omitted—Krivomazova generalities about Krasnoyarsk-26 at mouth of tunnel leading to underground city] [144008]

[144009] [Krivomazova over video of tunnels and nuclear power station control room] Last year two nuclear reactors, which had been producing weapons-grade plutonium for many years in an atmosphere of strict secrecy, were taken out of service here. Only one reactor remains in operation, to supply the industrial facility and the city with heat and electricity. However, the situation is becoming explosive.

[unidentified man to camera] It is necessary to carry on working. Only work can change the situation. A strike cannot change anything.

[Krivomazova over video of boiler house and train with armed guards] Of late wages have been regularly withheld.

Nervous tension is rising in the collective. And as for the inhabitants of Krasnoyarsk, they enjoy no privileges in connection with living in the vicinity of a dangerous production facility.

This year 20 billion rubles have been lost as a result of the decision no longer to accept spent nuclear fuel from former union republic nuclear power stations for processing. The question of whether the construction of the nuclear fuel processing plant should be continued is in the balance. [video shows construction site] The storage facility is only 15 percent full.

When the Chernobyl accident occurred, people here knew about it right away from instrument readings. Now the Union has fallen apart, but we continue to live on the same planet. Last year when Ukraine suspended sugar deliveries, the Kray's Inner Soviet banned the acceptance of nuclear waste from Ukrainian nuclear power stations. [144120] [video shows underground tunnels, reactor control room, brief interview with unidentified man, large boilers, train with armed guards, nuclear waste processing plant construction site and interior] [passage omitted—interview with Valeriy Lebedev, director of Krasnoyarsk mining and chemical combine—144121 thru 144215—talking about need for legislation, defending the plant, and saying that it is unfair to talk about turning Siberia into a nuclear waste dump]

Workers Write Open Letter

PM1808162393 Moscow KOMSOMOLSKAYA PRAVDA in Russian 14 Aug 93 p 2

[Letter from Krasnoyarsk-26 labor collectives to the KOMSOMOLSKAYA PRAVDA editorial office under the "Letter to This Issue" rubric: "Krasnoyarsk-26 Running Away From Strontium-90"]

[Text] Respected editorial staff!

We are writing to you as workers in nuclear industry. Our plant produces weapons-grade plutonium, and is involved in the reprocessing of waste from nuclear power stations. The president, government, and Russian Supreme Soviet have nothing to do with us. But in the meantime the situation could get out of control, and like a nuclear explosion, become uncontrollable. Then people will pay attention to us, but it will be too late.

Our wages are not keeping up with prices. All plans for the plant's social development are falling through for lack of sources of finance. But this is only half the problem. The enterprise cannot purchase chemical reagents and materials, which is leading to unscheduled stoppages in the engineering process.

The personnel have already reached their limit. The constant stress and uncertainty about the future will inevitably bring about unconscious mistakes. We should not forget the tragic events which took place in our sister enterprises at Chelyabinsk, Chernobyl, and Tomsk.

The people here are on the verge of a mass exodus. Where can you find replacements for highly qualified personnel? It is impossible to close the plant due to the large quantity of

highly radioactive waste which has accumulated, which it will take seven to 10 years to reprocess.

[signed] The labor collectives of the reactor, radiochemical, and isotope and chemical plants. Krasnoyarsk-26.

Russians Voice Opinions on Ukraine

Statement from Moscow Circulated at UN

LD1308202693 Moscow ITAR-TASS in English
2021 GMT 13 Aug 93

[By ITAR-TASS correspondent Boris Sitnikov]

[Text] United Nations August 14 TASS—A statement of the Russian Government on nuclear arms in Ukraine was circulated at the United Nations headquarters on Friday as an official document of the United Nations General Assembly and the Security Council.

"Kiev has made a number of steps to gain control over nuclear arms stationed on Ukrainian territory. On July 2 the Ukrainian Parliament adopted a document 'Major areas of the Ukrainian foreign policy', in which Ukraine declares itself the owner of the arms," says the statement.

"The Parliament act was later supported by public pronouncements of Ukrainian leaders. The Ukrainian Defence Ministry has decided to include troops in charge of storage and operation of nuclear warheads in the 43rd Missile Army under Ukrainian command.

"Thus, Ukrainian direct control over the nuclear arms is established.

"The Kiev course, has which provoked concern of the international community, leads to grave consequences for the international stability and security, the whole system of international relations.

"Declaring itself the owner of the nuclear arms, Ukraine violates its international obligations on the non-nuclear status, challenges the international legal order and brings legal nihilism to international relations," says the document.

Atomic Energy Minister Interview

MK1808110193 Moscow NEZAVISIMAYA GAZETA
in Russian 18 Aug 93 pp 1,3

[Interview with Viktor Mikhaylov, Russian atomic energy minister, by Andrey Vaganov, under "Armaments" rubric: "It Will Take Ukraine Several Decades to Become a Nuclear Power. The Russian Nuclear Arms Complex, According to Russian Federation Atomic Energy Minister Viktor Mikhaylov, Is Not In Any Way Inferior to That of the United States' and Is Evaluated at \$5 Billion;" date, place not given—first six paragraphs are introduction]

[Text] Viktor Nikitovich Mikhaylov was born in 1934. In 1957, when he was still a student at the Moscow Physical Engineering Institute, on the recommendation of Academicians Ya.B. Zelgovich and A.D. Sakharov, he was sent on special assignment to the secret city of Arzamas 16 to write his graduation thesis on the subject of compression of super-small masses of active nuclear materials. Prior to that,

he passed the famous "theoretical minimum" to Lev Landau. Slightly more than 40 people have succeeded at that during the entire period.

After graduating from the Moscow Physical Engineering Institute, he was assigned to work at Arzamas-16 on a regular basis. There, he moved up all the steps of the career ladder: from junior research associate, to head of a department, to professor.

In 1969, he was sent to Moscow to work at the Scientific and Research Institute of Impulse Technology to develop diagnostic systems and methods of registering rapid processes. As at Arzamas-16, he moved up from head of a department to director and scientific supervisor.

In November 1988, he was appointed deputy minister in charge of the nuclear arms complex of the USSR Atomic Energy and Industry Ministry.

Since March 1992, following a Russian presidential edict, he has been the Russian Federation's atomic energy minister.

He takes special pride in the fact that in 1988, he was in charge of a group of our specialists in a joint experiment aimed at improving the methods of monitoring the power of subterranean nuclear explosions in the United States and in the USSR.

Vaganov: Here is a question which it is difficult not to ask. Ukraine has officially announced that it is the owner of nuclear weapons. Already last year, reports appeared that Ukraine was trying to develop an independent system of codes, or, as they say, to acquire its own "nuclear black box." How feasible is this from a purely technical point of view?

Mikhaylov: I have just returned from Kiev, on Saturday, where I stayed for two days. We discussed an agreement between the Russian Federation and Ukraine on dismantling strategic nuclear forces. Our delegation was headed by Ambassador-at-large Yuriy Dubinin. We agreed on and inked the basic principles of compensation for nuclear active materials; and we heard no statements to the effect that you have mentioned. Apparently our mass media have been giving overly liberal interpretations to particular statements. Quite to the contrary, we came to a mutual understanding on questions of dismantling nuclear strategic forces in Ukraine and on compensation for this dismantling; and I was even surprised that such an agreement has not been completed before now. Some people must be benefiting from preserving tensions in relations between our states.

Vaganov: Nonetheless, references are being made to Ukrainian scientists....

Mikhaylov: I can express my own opinion. In order for Ukraine to become a nuclear power, many, many decades would be needed; and also funds, which it lacks. I think, rather to the contrary, at present Ukraine needs both the Nonproliferation Treaty and the International Atomic Energy Agency's guarantees; and this desire does exist in Ukraine. Of course, it is Ukraine itself that will decide on the timeframe for this process.

Anything could be developed in principle. But what would it cost? The whole of Russia has worked to create our present nuclear complex. It is estimated today at around \$5 billion. I am not even saying that a corresponding scientific basis is needed, production facilities, qualified specialists, and an infrastructure. Many countries have \$5 billion "to spare." But in order to create requisite teams, decades would be needed. (According to expert estimates, the value of the basic assets of the U.S. Energy Ministry's nuclear arms complex is estimated at over \$15 billion).

Therefore, in my opinion, this question has been virtually settled with Ukraine, and in the near future a corresponding agreement will be signed.

Vaganov: What is Russia's current nuclear arms complex like? What is its place in the Russian Atomic Energy Ministry's overall volume of work?

Mikhailov: At present, there are approximately 1 million employees working under the Russian Atomic Energy Ministry: at enterprises, in research institutes, design organizations, and production complexes. In the ministry itself, there are some 900 officers. (Incidentally, when the ministry was formed in 1953—at that time it was called the Ministry of Medium Machine Building—the number of its employees was 3,031). Projects related to the nuclear arms complex constitute 15 percent, while the remaining 85 percent are civilian projects.

Russia's nuclear arms complex is, without exaggeration, a unique one. It incorporates 10 closed cities with an overall number of some 700,000 people. Among them are two federal centers that have a worldwide reputation—the All-Russia Scientific and Research Institute of Experimental Physics (Arzamas-16) and the All-Russia Scientific and Research Institute of Technical Physics (Chelyabinsk-70).

Vaganov: What does it cost the taxpayer to pay for the upkeep of the nuclear arms complex?

Mikhailov: Owing to inflation, it is very difficult to keep track of the prices. But even in the better days, in comparable prices, we spent three to four times less than the United States was spending on its national laboratories and the corresponding nuclear complex. Moreover, in terms of the volume, everything that we created within that complex exceeds by 1.5 to 2 times everything created by other nuclear powers.

In 1990 prices, each taxpayer is paying approximately 10 rubles for the upkeep of the nuclear arms complex.

Vaganov: I know that you have recently returned from Arzamas-16. What was the aim of your trip there?

Mikhailov: First of all, I am the scientific supervisor of that center. Yuliy Borisovich Khariton, who directed the Federal Center for over 40 years, has now retired. In February 1994, he will be 90. He has remained our honorary scientific adviser. Therefore, I visit that center more often than other installations. But the latest trip was related not only to the development of a number of scientific programs, including

conversion projects, but also to the very complicated financial and economic condition of the center. Although now we have paid salaries up to July, there was a delay of more than 3 months.

Vaganov: And what is the average salary?

Mikhailov: At that center it is approximately 40,000 rubles. But as of 1 July, it was raised to 74,000. True, today, owing to a shortage of cash, we have not yet paid these new salaries.

Vaganov: A "brain-drain" from Arzamas-16: Would it be correct to say that this problem exists?

Mikhailov: The question of the brain drain in nuclear physics needs qualification. In high energy physics, in superconductivity physics, and in thermonuclear synthesis—in these areas our specialists have always been actively working in, among others, the United States, on the Dallas supercollider (for details on the supercollider project, see NEZAVISIMAYA GAZETA no. 118, 26 June 1993—A.V.); in Geneva, and in other nuclear centers around the world; and this remains one of the principles of our ministry's work.

As for the brain drain in the nuclear arms complex, this does not exist at present. Our country is very strictly implementing the 1968 treaty on nonproliferation of nuclear weapons and related technology. With respect to manpower turnover, in 1992 and in the 8 months of this year, we lost some 30,000 scientific and research workers in all of our centers.

Vaganov: The current year has been rich in the number of accidents and incidents at plutonium-related production facilities: Tomsk-7, Chelyabinsk-70. To put it bluntly, this looks like a regularity rather than an accident. What sort of evil fate is pursuing plutonium production facilities?

Mikhailov: I should like to begin a little from afar. Our nuclear power stations, according to international expert appraisals, have performed considerably better in terms of these indicators during this year than nuclear power stations in France, Britain, or Germany, and particularly the United States. In fact, we are second only to the Japanese. We have halved the coefficient of incidents involving automatic defense activation during these 8 months. In 1992 alone, more than 1,000 foreign specialists and approximately 100 international delegations visited our nuclear power stations.

Now, as for radio-chemical production facilities in Tomsk-7, indeed, there was a serious incident (a radioactive leakage—40 curies). At the Mayak plant in Chelyabinsk-70, there was a discharge of 0.2 milli-curies. Next to Chernobyl, these things are not comparable. Although I must admit frankly that all of our radio-chemical complexes are very old; and all of us, including myself, thought that everything had been perfected at these complexes during these years. Today, however, we have stopped many installations for prophylactic and modernization work, including work to upgrade normative and technical documentation.

At Tomsk-7, by the way, the shop where the accident occurred has already been put back into operation and all

the consequences have been removed. At Mayak, the scale of the incident is thousands of times smaller. Nonetheless, I agree with you that it is necessary to be extra careful with this complex.

Ten years ago, no one would have known about these incidents. For us, these are very local incidents.

Vaganov: Does this mean that there were also such incidents 10 years ago?

Mikhailov: Today, looking through the documents, I can see that there were—involving discharges of several curie or several dozen curie.

This is why I believe that today it is necessary to restore production documentation based on modern safety and security requirements; and also taking into account the requirements of openness. And possibly several years from now, we shall have to raise independent monitoring to an international level, for example, the level of the International Atomic Energy Agency.

Vaganov: There are several thousand nuclear charges in the world. Nuclear test programs involve on average ten tests a year in each country. If, as is maintained, nuclear tests are necessary to test the security and safety of their storage, then simply in order to get reliable statistics, more tests need to be conducted than the number of the existing charges themselves. Therefore, there does not seem to be any technical necessity for holding such tests. Far more information could be obtained by merely dismantling and inspecting a particular nuclear charge.

Mikhailov: No, this is an incorrect premise. Invariably even a limited number of experiments can provide a fairly large volume of information; and we shall not be able to get this information by simulating corresponding situations with modern computers. The processes of the formation of an explosion in a nuclear charge are so complicated that there will be many inaccuracies in their simulation.

Vaganov: Maybe, indeed, in order to break the vicious nuclear circle, unilateral steps are needed?

Mikhailov: There is a certain danger in this. With such complicated devices as nuclear weapons, it is very important to have an experimental basis. For instance, we know that the United States has already conducted more than 40 tests of third-generation nuclear weapons. These are weapons which in terms of their global pollution effect are hundreds of times less damaging than conventional weapons. They work like a scalpel, "cutting out" particular targets and causing only local radioactive pollution. The temptation to use such weapons is fairly great.

Vaganov: Without revealing any state secrets, could you say whether any work is being done in Russia along these lines?

Mikhailov: I can say that our nuclear arms complex, its scientific, technological, design, and production capacity today is in no way inferior to that of the United States.

Vaganov: Recently it has been reported that there are plans to use the testing site in Novaya Zemlya as a nuclear burial place for radioactive waste. What is the real situation here?

Mikhailov: So far, proposals have only come from the Navy and from representatives of the Murmansk Oblast administration concerning waste storage, including waste from nuclear submarines. No concrete decisions have been made. Other alternatives are being considered and compared.

The testing grounds on Novaya Zemlya is Russia's federal testing site. With the negligible funds that are being allocated to us, we are trying to keep it in good functional condition. Our task is, in the event that someone breaches the moratorium, to ensure Russia's readiness to conduct subterranean nuclear tests.

Commentary on 'Nuclear Poker Game'

PM2408093793 Moscow ROSSIYSKAYA GAZETA
in Russian 21 Aug 93 First Edition p 7

["Commentary" by Vladimir Tyurkin: "Game of Nuclear Poker. Official Kiev's Reluctance To Part With Strategic Arms Starts Arousing Serious Misgivings"]

[Text] It is not so much Moscow, which has since ancient times valued its neighbor's economic strength, as Washington, Bonn, and Brussels who must from their civilized distance see Kiev as a 176-headed (in terms of the number of missiles) nuclear monster hatching perfidious plans for global aggression. Last week the West's top military-political officials once again, for the umpteenth time, tried to sound out Ukraine. U.S. Admiral Miller, commander in chief of NATO Allied Forces, Atlantic, and FRG Defense Minister Volker Ruehe went extremely thoroughly into the details of the organization of the military machine in the once little-known union republic, now the world's third nuclear power after the United States and Russia. They had trouble hiding their serious concern at this.

The North Atlantic bloc's "shining hour"—the breakup of the Soviet giant—proved unexpectedly short-lived since it gave way to a fresh headache. Technically in effect the question of Ukraine's nuclear disarmament has grown into a world problem. Kiev's conduct does not fit in well with the mainstream of traditional, Western, rationalist thinking.

In actual fact Ukraine at first declared itself a nuclear-free state, then it dragged its feet with ratifying the START-I Treaty, refused to accede to the Nuclear Nonproliferation Treaty, and declared all the nuclear arms on its territory to be its property. And in conclusion it stated that the 46 SS-24 missiles with 10 warheads apiece did not come under the START-I Treaty at all.

Ukrainian Defense Minister Konstantin Morozov, who at a press conference in Admiral Miller's presence spoke of his department's burning desire to "use the experience of progressive NATO countries in shaping the Ukrainian Armed Forces," was hardly a considerable reassurance to NATO members. Nothing bad may have been meant, but it was he who decided on the eve of the admiral's visit to include the troops responsible for the storage and commissioning of nuclear munitions within the 43d Missile Army under national jurisdiction. Of course, that still does not mean that Kiev is capable of launching missiles—Moscow still controls the launch codes from the well-known black attache case.

Last, on the same day the Ukrainian Defense Ministry's press service issued another "reassuring" statement, saying that Ukraine is able to prevent the use of strategic nuclear forces stationed on its territory but does not want to take possession of these missiles' launch codes. Is that clumsy bravado or a latent threat (since Ukraine's research institutes could in theory crack the codes)? At any rate there are signs of a desire to demonstrate its nuclear importance.

Here is the latest in this string of events. Russia's foreign minister recently announced to the whole world that the Russian-Ukrainian treaty on the destruction of the nuclear weapons on Ukrainian territory is virtually ready for signing, yet the following bewildering statement immediately followed from Kiev: "We cannot see that happening!" How are we to take that?

In the opinion of many observers, Kiev has no particularly perfidious intentions—as far as practical use of the arsenals is concerned. This is poorly disguised blackmail with a view to milking greater subsidies from the West for dismantling the arms and making Moscow more tractable in contentious financial and political issues. Though, at the moment, as far as I know, neither one thing nor the other is happening.

But, as we can see, a stubborn player has joined the nuclear poker game. And it is surreptitiously raising the stakes. What if, God help us, it goes for broke!

U.S.-Ukrainian Military Contacts Denounced

*MK2808130093 Moscow FEDERATSIYA in Russian
No. 97, 28 Aug 93 (Signed to Press 27 Aug 93) p 7*

[Igor Korotchenko report: "What Grudge Does Kiev Harbor?"]

[Text] It is well known that the Russian Federation's political authorities have reacted negatively to U.S. Defense Secretary Les Aspin's initiative put forward during his June visit to Kiev. The Pentagon chief's proposals boiled down to the establishment of international control over and involvement of foreign (American) personnel in the dismantlement and subsequent storage of warheads from intercontinental ballistic missiles (ICBM) deployed on Ukrainian territory.

Expressing emphatic protest against the very raising of the question, Russia stated that under agreements already reached Ukraine is to hand over to the Russian side all nuclear warheads without any preconditions. Otherwise, Kiev's haggling over nuclear weapons, which has been so expressly encouraged by the United States, may lead to absolutely unpredictable consequences.

Unfortunately, the Ukrainian defense minister's reciprocal visit to Washington did not allay Russia's concerns in this regard. On 27 July, Colonel General Konstantin Morozov signed a Memorandum of Understanding with Les Aspin and at the same time he unequivocally backed the U.S. defense secretary's stance, calling it "a step toward the realization that Ukraine's national security concerns are justified."

It is worth noting that the agreement reached is the first document of its kind the United States signed with a former USSR republic. What consequences may follow

from the emerging American-Ukrainian rapprochement and what made it possible? Remarkably, the memorandum, among other things, calls for setting up "a joint working group for military cooperation," which will apparently deal with the practical implementation of the American secretary's proposal.

Meanwhile, the United States' insistent desire effectively to gain control over the process of standing down a part of the former USSR's strategic nuclear forces from alert status and dismantling them has not been necessitated even by its own security concerns, although this factor is also present in the U.S. stance. What has come to the fore is the intense desire to exploit an opportunity coming its way to gain direct access to one of the most carefully protected secrets of the once mighty superpower, whose legal successor Russia has become. Evidently, Les Aspin's disarmament initiative was not born by chance, nor did it materialize from nothing. It was preceded by a painstaking analysis of the entire spectrum of Russian-Ukrainian relations, which are scrutinized in the United States by a whole slew of rather peculiar organizations apart from the State Department. They include the Defense Intelligence Agency (DIA)—the chief military intelligence service. Among its numerous functions is a priority one: to obtain and to systematize information on military equipment and armaments of potential enemies. In particular, the DIA's secret agents in Kiev are doing their utmost to "support" Ukrainian politicians who insist on splitting the Black Sea Fleet, that is, on its effective destruction.

The proposals articulated by the U.S. defense secretary in Kiev some time ago are nothing less than an integral part of a plan for gaining access to Russia's nuclear secrets, which has been drawn up by the DIA's intelligence programs department jointly with the CIA's department for military problems. As a matter of fact, the implementation of operations of this scale and significance would have been impossible without their being considered beforehand by the U.S. National Security Council and subsequently approved personally by President Clinton.

The Ukrainian political leadership's lack of professionalism with regard to military matters is understandable. What is less explicable is the willingness of the Ukrainian Defense Ministry's top chiefs to create favorable conditions for the unimpeded activity by American spies, who under the guise of "international disarmament experts" are ready to proceed with carrying out the requisite operations. Of all people, Konstantin Morozov, who graduated from the General Staff's Military Academy in Moscow, should have realized what is behind the Americans' dubious initiative. It is no secret that ICBMs that are subject to elimination in Ukraine belong to missile types that will continue to make up the bulk of the Russian Federation's strategic nuclear forces. If Ukraine fails to adjust its stance, and American servicemen, contrary to earlier agreements, take part in the dismantlement and storage of the nuclear warheads, the United States will be capable of gaining access to crucial information. For instance, the Americans may find out:

—impact and strength characteristics of the warhead and nose cone;

- mass and dimensional characteristics, and also design and structural features of the nuclear warhead;
- TNT equivalent of the nuclear charge and time intervals of its life cycle;
- content and principles of flight specifications;
- principles of operation and specification characteristics of warheads' individual guidance systems;
- availability, composition, and principles of operation of external sensors that detonate the warhead at the requisite altitude or at the given depth;
- composition and operational features of devices designed to enable warheads to penetrate air-defense and ABM systems, and so forth.

Building on the data obtained, the United States will be able to upgrade its air-defense and ABM systems (the latter including space-based elements) to a point where in the event of unleashing a war against the Russian Federation, the aggregate capacity of Russia's nuclear counterstrike will fall short of a level unacceptable to the aggressor, that is, the threat of ineluctable retaliation will simply cease to exist for the latter. In this event, Russia will simply be not be taken into consideration, which will definitively wreck strategic stability in the world, undermine the foundation of Russia's national security, and dash the efforts of several generations of our scientists and servicemen to create a nuclear missile shield.

Hence, this evidently necessitates an adequate response to the stated intentions and practical steps of the Ukraine leadership aimed at illegally retaining the status of a nuclear power while at the same time allowing the U.S. secret services access to the realm of Russian nuclear secrets. These actions are at odds with Ukraine's obligations with regard to international law and are hardly in line with the principles of good-neighborliness. I think Moscow will find sufficient arguments to press this home to Kiev.

Deputy Foreign Minister Expresses Concern

LD2708170293 Helsinki Suomen Yleisradio Network in Finnish 1430 GMT 27 Aug 93

[Excerpts] The Russian Government is concerned about the fact that nuclear arms negotiations with Ukraine are prolonged. On the basis of the START Treaties, Ukraine should deliver its nuclear arms to Russia to be destroyed. So far, no agreement on the delivery has been achieved. The Russian deputy foreign minister, who is visiting Helsinki, thinks that it is obvious that Ukraine is aiming to get its own nuclear weapon. Jukka Palmen reporting. [passage omitted]

[Palmen] The deterioration of the relations between Russia and Ukraine has given a new reason for the Moscow leadership to worry. According to the START Treaty, Ukraine should deliver its nuclear arms to Russia to be destroyed. Despite prolonged negotiations, no agreement on the matter has been reached. Ukraine thinks that the compensation offered to it for moving the arms is too small and the country has not been given the security guarantees it wants either.

According to Russian Deputy Foreign Minister Grigoriy Berdennikov, it is difficult to understand the viewpoints of Ukraine. Berdennikov says that Russia has offered hard currency for the nuclear warheads or, alternatively, to change them into fuel for nuclear power stations. However, this has not suited Ukraine. Berdennikov believes that Ukraine's willingness to keep the nuclear weapons is mainly because of domestic reasons.

[Begin Berdennikov recording in English] It is from our point of view it is connected with some political forces (?there) in, maybe in parliament—very nationalistic forces, what is allowed to the Russians should be allowed to the Ukrainians. [end recording]

[Passage omitted] There are about 1,800 different kinds of nuclear warheads in the area of Ukraine. Deputy Foreign Minister Berdennikov says that he is not very concerned about the long-range nuclear missiles, of which there are about 200 in Ukraine. According to Berdennikov, Ukraine is not able to service them, so the practical value of them is constantly diminishing. The missiles are also subordinate to the commanding system of the CIS Armed Forces and it would be technically very difficult for Ukraine to leave it. The Russian deputy foreign minister says that he is more concerned about the cruise missiles which can be launched from airplanes and of which there are about 600 in Ukraine.

According to Berdennikov, Ukraine has started to break the codes of the missiles to get them under their control. However, according to the Russian view, Ukraine is not yet able to use nuclear weapons even if it wished to do so.

[Begin Berdennikov recording in English] Theoretically, possibility is there, but it is not an immediate thing; it will take some time. [end recording]

Antinuclear Ship Turned Away From Test Area

Barring Ship From Novaya Zemlya Defended

93WC01004 Moscow NEZAVISIMAYA GAZETA in Russian 11 Aug 93 p 2

[Article by Andrey Vaganov: "They Would Not Let the 'Anna Akhmatova' Into Novaya Zemlya"]

[Text] And They Did the Right Thing: A Nuclear Testing Ground Is No Place for Political Show

The motorship Anna Akhmatova, on which the participants in the international non-government conference, "Nuclear Testing: From the Laboratory to a General Ban," found themselves, was not permitted into the 12-mile zone around the nuclear testing ground at Novaya Zemlya.

"What are the directors of the nuclear testing ground hiding from the world public? This perhaps?" With a note of righteous indignation, the creator of an on-the-spot television report, on the program "Against the Nuclear Threat," last Saturday showed us a shot a year old. It really was something to horrify world society: a lacerated seal, the decomposing corpse of a white bear, shores befouled with metal barrels and other scrap metal. There is one "but," which the creators of the on-the-spot report delicately refrained from mentioning: the piece of land shown is in no

way part of the nuclear testing ground—it is the Cape of Zhelaniye, the northeastern tip of Novaya Zemlya. I understand that it is a great temptation to extrapolate what is seen at one point of the archipelago into its entire territory. In this case, however, it would be nice to have a warning of this sort of "extrapolation." It would have been nice to tell, as well, why these dumps have formed: it is an almost hopeless cause to make some organization remove its scrap metal to the mainland. (Incidentally, Novaya Zemlya is not the only one with this problem—the military went from bad to worse right here, but they are trying to put it in order. The entire Russian North has this problem).

Nevertheless, I think that the program shown on TV will achieve goals that are just the opposite of what its creators hoped. Russia's prestige in the eyes of the world community did not in any way drop because the passengers from the Anna Akhmatova could not stroll through the nuclear testing grounds—it may have risen. Moreover, if this excursion had happened—we would really have strengthened even more the image of a country peopled only by simpletons.

Here we must relate certain little known facts from the story of the preparation for the cruise of the Anna Akhmatova. By the decree of the Russian government, No 470, "On Approval of the List of RF Territories with Regulated Visits for Foreign Citizens," the islands of Novaya Zemlya below the line "bay, Russian harbor—Cape Middendorf" were included among the territories with special conditions for entry. In accordance with this decree, those who wish to visit Novaya Zemlya should submit an application three to five months in advance. The heads of the Russian VMF [Navy] learned about the conference participants' intention to visit the nuclear testing ground from the April issue of the magazine ECONORD. Only on 17 May 1993 was there a meeting between the representatives of the public organizations and the management of the Novaya Zemlya Testing Ground, at which the planned program for visiting the facilities was presented. This program, in the opinion of Vice-Admiral Gennadiy Zolotukhin, administrative chief of the Main Headquarters of the RF VMF, more resembled the program of a reconnaissance action. All this was to be the crowning touch of an openly demagogic political show—the lowering into the sea of a penitential wreath, in memory of the victims of the nuclear bombing of Hiroshima.

Meanwhile, there are plenty of places in the world where one might have much greater basis for repenting the bombing victims. If you lower wreaths into the harbor of a Russian nuclear testing ground, it would be more appropriate to put a mourning band on them with the inscription: "Novaya Zemlya has stopped a new Hiroshima."

In any case, the participants in the international conference were denied the visit to Novaya Zemlya. The Ministry of Nuclear Power, the Ministry of Security—all supported the decision of the administration of the Main Headquarters of the Russian VMF on the inexpediency of the trip to the Novaya Zemlya Testing Ground according to the proposed program.

Further events developed as in a bad detective novel. The cruise organizers sent the Russian Federation Ministry of

Defense a request for an audience on four questions, one of which was the question of the visit to the nuclear testing ground. The minister, having agreed to the meeting, placed his official signature on the request submitted. Those fighting against the nuclear threat attached to this title sheet, with Pavel Grachev's official signature right on it, the rejected program for the visit to the nuclear testing ground. The rudimentary forgery was, of course, discovered. Now we hear (and see) the complaints of the outraged conference participants about the old-regime actions of the Russian authorities. ("The idiocy of secrecy"—Sergey Torchinskiy, anchorman of the program, "Protiv atomnoy ugrozy" [Against the Nuclear Threat] expressed it this way). At the same time, as always, he used as an example for us the openness and accessibility of information on the United States nuclear testing ground in Nevada.

(A SMALL PIECE OF INFORMATION. The Nevada testing ground was officially declared the national pride of the United States. The question of shutting it down immediately—which they are striving to do to the Novaya Zemlya testing ground—is not even being discussed. In reality, any United States citizen has the right to visit it. A request for such a tour is made five to seven months in advance. The tour itself lasts 6 to 8 hours, and of them, one and a half hours are spent at the testing ground proper, without getting off the bus and without movie cameras or photographic equipment).

Incidentally, if the question of shutting down the Russian nuclear testing ground had to do with purely ethical concerns, it would not be worth starting all these sparks flying. Aside from the moral aspects, however, scientific, technical and political aspects are no less important. Again, for those who like to match Western experience. Once, in 1991, still in the days of the USSR, by a virtually strong-willed decision of Mikhail Gorbachev, without consultations with parliamentarians and specialists, he introduced a year's moratorium on nuclear testing. As a result of this sort of "struggle for peace," a nuclear charge remains in the tunnel at the Semipalatinsk Testing Ground to this day. It will cost hundreds of millions of rubles just to develop methods of rendering it harmless, that is, recovering it.

On 18 September last year, the United States passed a law "On Allocations for the Development of Power Engineering and Water Resources in the 1993 Fiscal Year." It includes, in particular, measures pertaining to a moratorium on nuclear tests. The law was passed, not at the wish of some high official or other, but after thorough discussion in Congress, taking the situation into consideration. It was passed for 9 months, not for a year. That is, after the period of the moratorium had ended, the United States, if necessary would manage to carry out the nuclear testing planned for 1993. The American experience in conducting nuclear tests in 1992 attests to the fact that the United States implemented a year's program of nuclear tests in only 6 months of the 1992 fiscal year. Moreover, it carried out the last underground nuclear test after this law had been passed (22 September), although before it went into force (30 September). In this case the congressmen felt that the moratorium was by no means a reason to shut down the

Nevada testing ground: while the American army was still armed with nuclear weapons, they should be tested periodically for the reliability and safety of the storage. (I express my gratitude to V. Bitkov, chief of the Department of the Center for Public Information on Nuclear Power, for obligingly making available the text of the United States law and other documents related to it).

It was this that the participants in the cruise to Novaya Zemlya could not, or intentionally did not want to understand: if Russia had officially declared that it was a nuclear power, that meant that it needed a normally functioning nuclear testing ground. As soon as the decision was made to shut it down, Russia would de-facto stop being a nuclear power, with all the ensuing geopolitical consequences. This would take place regardless of whether the political leaders wanted it or not—simply by virtue of technological inevitability.

Nuclear disarmament? Of course. In this case, though, the last things to be shut should be the nuclear testing grounds. It is a technological chain, and if the links in it are moved at will, then mankind can wait for a catastrophe.

Naturally, the question of radiation safety must in no way be raised here. This is a subject for a separate study. According to the conclusion of American experts visiting the Novaya Zemlya Testing Ground, however, the radiation situation there is better than it is in Nevada and the water used for the household needs of the archipelago's population of 15,000 is purer than in Washington. (These data, incidentally were also known to the participants in the international conference).

"Underground tests at a sufficient depth of the explosion chamber and with adherence to other safety measures can do no ecological damage in either the country carrying out the testing or, moreover, beyond its limits. While nuclear weaponry exists and is not banned, the decision on its underground testing is an internal sovereign matter for each of the nuclear powers"—this is the opinion of Academician Andrey Sakharov.

Reportage From Akhmatova Anti-Nuclear Ship

93WC0103A Moscow ROSSIYSKAYA GAZETA
in Russian 13 Aug 93 p 4

[Article by Sergey Tikhomirov, special correspondent (aboard the "Anna Akhmatova"—Moscow): "'Anna Akhmatova' in Distress"]

[Text] If the Russian poetess Anna Akhmatova had ever imagined that she would have to go to the Soviet nuclear test range on Novaya Zemlya, and that she would be accompanied by two valiant border guards who seemed to have taken a great interest in her, I think she would have been in a state of utter shock. Nevertheless, a recent expedition to Novaya Zemlya, by representatives of international organizations opposed to nuclear tests, was connected with the name of the deceased poetess, however inappropriate this might sound.

The organizers were the Russian committee of "Physicians of the World for the Prevention of Nuclear War," the "New World" movement for ecological safety, and the Union of

Novaya Zemlya Veterans. The international conference on "Nuclear Tests: From a Moratorium to a Comprehensive Ban" was held on board the ship "Anna Akhmatova," which was supposed to drop anchor near the giant nuclear test site. The conference was timed to coincide with the 30th anniversary of the Moscow Treaty on the Prohibition of Nuclear Tests in the Atmosphere, in Space, and Under Water.

According to conference speakers, the gathering seemed to have been a success, but the ultimate goal was not attained—the symbolic landing on Novaya Zemlya and the meeting with test site personnel. Minister of Defense Pavel Grachev said no. The message the nuclear test ban advocates sent to Boris Yeltsin, requesting his personal intervention, did not help either....

From the newspaper files: The honor of discovering Novaya Zemlya belongs to Russian navigators, and according to historical documents, this occurred at the end of the 15th Century. Within half a century the island began to be developed by Russian merchants active in the fishing trade and hunting for walrus, polar bear, polar fox, etc.

A splinter group of the Old Believers were the first to settle on Novaya Zemlya, but all of their attempts to elude fate ended in tragedy. The pioneers, a few Russian families who arrived on the island in the 17th century, died of scurvy a short time later. This is probably why Novaya Zemlya remained uninhabited until almost the end of the 19th century. It was not until 1869 that a Nenets known as Foma Vylke became its Robinson Crusoe. He was joined later by around 100 other members of his tribe....

...The "Anna Akhmatova" was heading for Novaya Zemlya, and its passengers did not lose hope of landing on the island until the last minute. Our ship was accompanied by vigilant border guard boats, following a few miles behind and to the side. (Just in case?) This went on for the whole 6 days of the journey through the White and Barents seas.

Anyone who has ever attended a conference or symposium, even an international one, knows that this is a fairly boring undertaking per se (after all, it is not a Kobzon concert, with his "classic" about the Russian meadow). It is a series of reports, plenary meetings, debates, and the like. Of course, it cannot be called a waste of time. Not at all. It is quite the opposite for those in the know, for specialists. Journalists, however, are not the sedentary type in general. Copies of the reports presented by any specialist, even behind closed doors, can always be "procured" and can then be used, but sitting in a stuffy auditorium, trying not to yawn, seems uncomfortable.

Living beings, communicating in what might be called a free and easy atmosphere, without ceremony, are a different matter. I was able to meet some interesting people at the last international conference, but first I should cite a few facts.

From the newspaper files: In July 1954 the CPSU Central Committee and USSR Council of Ministers decreed the start of the construction of a nuclear test site on Novaya Zemlya, which was completed in record time. Although all of the natives, mainly Nenets, were resettled on Bolshaya Zemlya

three years later, the first nuclear test (underwater) shook the island in 1955. In all, 132 tests were conducted there.

Here is what I was told by Vladimir Petrovich Kovalev, captain 1st rank, retired, co-author and developer of the "Marble" remote-control system for the tests on Novaya Zemlya in the 1950s and 1960s.

"I began learning how to explode the 'devices' (read: 'nuclear weapons'—S.T.) in Semipalatinsk in 1954. In general, we were all learning, but we did not know any of the specifics. We were quite reckless. I remember that around 40 minutes after the first explosion I could claim as 'my own,' I received the order to tell the men to put on their gas masks and go to the epicenter.

"We went there in three cars. Kurchatov was in the first. We arrived, got out of the vehicle, but we did not put on our gas masks. They seemed too uncomfortable. Kurchatov himself led the way, wearing a light-blue suit and a red tie, and suavely kicking aside the embers of unknown substances, still smoldering from the explosion, with the toe of his shoe....

"I think this was neither bravado nor childish sport, but simply a case of obliviousness to the implications of all this.

"Now," Vladimir Petrovich continued, "if you are interested, I can tell you about an incident that occurred at the time of the first nuclear test on 'Site 700,' which is what the Novaya Zemlya test range was usually called.

"A torpedo with a nuclear charge was suspended from the bottom of a trawler in Chernaya Guba Cove, around 20-25 meters under the water. My colleagues and I took shelter in the test control center. We ran all the way. A short time later I suddenly saw a red dot in the air, and then I remembered that I had left a briefcase on the trawler, with a service cap and a red flask of alcohol in it."

I heard more than enough stories like this one from the tamers of the atom. They told me about Sakharov, who loved to play billiards, and about Khariton, who was a ladies' man.

Today these individuals, courageous men like Kovalev, recall their youth with pleasure. Like the men who created the nuclear monsters, however, many of the men who tested them have arrived at one simple conclusion: It is time to stop. It is time for all of the owners of these terrible weapons to stop. As long as they are discussing a moratorium on nuclear tests, why not agree on a total ban? Incidentally, the scientists calculated that if all of the nuclear powers were to make this decision today, they would simply have to remove nuclear weapons from operational status within 10 or 15 years for objective technological reasons, and would eventually get rid of them gradually, to the point of total elimination. Meanwhile, here are some ominous statistics.

From the newspaper files: In the 46 years of the arms race, the combined number of warheads in the nuclear ammunition pits of the USSR, United States, England, France, and China climbed to around 60,000.

The explosive force of the nuclear weapons of the superpowers in the "best" years was equivalent to 18,000 megatons

(one megaton has the same destructive force as a million tons of TNT). This yield is equal to the explosion of 1.2 million bombs like the one that was dropped on Hiroshima or 1,636 times the yield of all the bombs used in World War II and in Korea and Vietnam combined—in wars that killed around 44 million people.

There is reason to believe that, in addition to the five members of the "nuclear club," such countries as Israel, India, and Pakistan might already have a few nuclear weapons of their own or the capability to develop their own within a short time. The countries which are thought to be on the threshold of having their own atomic bombs are Argentina, Brazil, Iraq, Libya, North and South Korea, and Taiwan.

In addition to all of this, according to some data, the radiation and radioactive materials released in atmospheric tests in the past could be the cause of around half a million deaths from cancer by the beginning of the next century. Some of these people have already departed this world of sin. In all, almost 2.5 million people could die of radiation-caused cancers....

...The "Anna Akhmatova" did not come any closer than exactly 12 miles to Novaya Zemlya. Some of us, however, could see its outlines through binoculars. There is a saying that everything happens for the best, and this was true in our case. I do not know why the top brass decided to turn our completely peaceful group away. We have known since Griboyedov's day, however, that some military officials have a peculiar mentality of their own.

In any case, it gave us great pleasure to visit Solovki and see the remarkable monastery that was built there back in the 15th Century by Russian monks. We also went to church there, and some of us lit candles and prayed that our children would not have to develop or test the thing that killed and is still killing the children of Hiroshima and Nagasaki.

Missile, Atomic Energy Conversion Projects

SLBMs May Be Used for Commercial Launches

PM1208144893 Moscow IZVESTIYA in Russian
7 Aug 93 First Edition p 15

[Article by Sergey Tutorskaya, accompanied by a photograph captioned "The launch vehicle 'Shtil'—a component of the 'Priboy' launcher": "Ballistic Missiles Can Be Destroyed... Profitably"]

[Text] The destruction of a sea-launched ballistic missile [SLBM] costs around 1 million rubles [R]. But if the contents of its nose cone are changed, a commercial launch could bring in profits.

According to the agreement on the reduction of strategic offensive weapons these missiles are liable for destruction. Salvaging one SLBM could cost up to R800,000 at late 1992 prices. Whereas if it is refitted and the deadly charge removed, it can be fitted with technical or scientific research apparatus.

It is well known that systems for growing crystals or forming alloys have long operated on board orbital stations and

spaceships. Conditions of weightlessness or microgravity considerably alter the course of processes; substances with new properties are created.

Our "Photon" and "Bion" devices have also frequently operated in space, making highly pure biologically active substances through biotechnological methods. A state of microgravity is also created during the flight of a missile through a normal ballistic trajectory. It lasts for 17-40 minutes depending on the type of missile. But this is sufficient to produce a certain quantity of valuable products.

The trajectory of an SLBM, on which "Sprint" systems for growing crystals or "Medusa" systems for biotechnical processes could be mounted, is near to vertical (it is described as quasivertical). The device climbs steeply upward and descends almost to its launch area or to another point where it is expected. The carrier sections fall away. But the nose cone containing the apparatus and the product made are lowered gently on parachutes. The conditions of weightlessness are as good as in long flights, and the advantage is that valuable substances can be produced and returned to earth fairly quickly.

In order to assess the scale of such work in other countries, suffice it to say that the United States, France, the FRG, Austria, Japan, and China are carrying out programs for the purification of biological and medicinal preparations through the method of electrophoresis in conditions of weightlessness on space devices of the Space Shuttle type, and also on parabolic aircraft flights. It is interesting to note that around 30 percent of the state budget funding which the FRG allocates to new technologies in space development work is for biotechnology.

Access to the world market for our specialists who produce valuable biological preparations is not easy. They have to prove first of all that the bone growth factor that offers the possibility of curing osteoporosis, immuno-modulators to boost our defenses, or endorphines and encephalines with analgesic effects, anticancer interferons and also interleukins [interleukiny]—that all these preparations are in no way inferior to foreign counterparts. In the long term they will all recover their costs well.

True, the prospect of their "landing" on the pharmacist's shelf is not near. In 1991 and 1992 "Sprint" and "Medusa" underwent test launches. The results are being studied.

Questions of producing new preparations and materials during launches and other problems of the peaceful reorientation of SLBM's are being studied by the Russian Association for the Conversion of Submarine Launched Ballistic Missiles. The association's president is Admiral Fedor Novoselov, retired.

Certain qualities of Russian SLBMs and the possibility of using them to launch space devices from the sea's surface have interested U.S. specialists and entrepreneurs. A joint Russian-U.S. enterprise is being set up. This enterprise will use ICBMs for commercial space launches. Our launch vehicles will lift into space other countries' satellites and apparatus, exclusively for peaceful purposes.

On the U.S. side the enterprise is headed by Admiral Tomas Murur [transliteration], retired, and on our side by Fedor Novoselov.

One of the promising missiles which will be used by the joint enterprise is the launch vehicle "Priboy." It will be launched from water, from a vertical position. "Priboy," developed by the Academician Viktor Makeyev Machine Building Design Bureau in Miass in the Urals, is extremely economical to launch and possesses a large payload capacity. It will be used mainly for launching foreign space devices for peaceful purposes. Money derived from commercial launches will partly go toward building houses for Navy servicemen and partly for the conversion of enterprises.

The fact that scientists are engaging in space bioengineering and the production of new preparations and materials with the help of space technology at a difficult time, when you cannot buy even a simple antibiotic at the pharmacist's when you need it, is of course, contentious. But even in more difficult times man has sometimes not neglected to raise his gaze from the sinful earth and contemplate the stars, his future.

Atomic Energy Ministry Heads for Full-Scale Conversion

LD2708131493 Moscow ITAR-TASS in English
1256 GMT 27 Aug 93

[By ITAR-TASS correspondent Anna Bakina]

[Text] Moscow, August 27 (TASS)—Scientific developments in the sphere of arms manufacturing have become the basis of modern technology for medicine, power engineering and geology. The dramatic reduction of the state order for the modernization of nuclear weapons and the discontinuation of their field tests forced the fifth main department—the department at the Ministry of Atomic Energy, which is in charge of the quality of nuclear weapons—to boost conversion. The guiding principle is to use to the maximum the high research potential and to work for starting mass production at enterprises of the Ministry of Atomic Energy, head of the department Georgiy Tsytkov told ITAR-TASS.

Last year 195.7 million rubles were allocated for conversion. This year it is planned to allocate for that purpose 3.5 billion roubles. Programmes to be financed include "creation of the communication system on the basis of components of the fibre-optical technology," "microelectronics, computer and automation facilities," programmes of electric power apparatuses, etc. Much attention is being devoted to the development of medical equipment. Specifically, a prototype model of an x-ray computer tomograph was created, which makes it possible to get the stratification picture of any part of human body. Tomographs are very much in demand among Russian medics, while the imported ones cost one million dollars each.

Specialists from the fifth department developed complexes for geological prospecting, specifically, for scanning between wells. Similar principles could be used for opening oil wells by the method of explosion technologies. The technology of obtaining synthetic diamond powder with the help of blowing up chemical explosives might be of interest for

scientists, who work on new materials. Producer institutes turned over to consumers hundreds of kilograms of such powders. One of the developments of the Ministry of Atomic Energy is intended for customs workers. By using neutron and x-ray generators in the installation for inspecting luggage, one can detect explosives and other materials, which are not permitted for transportation.

Atomic Energy Ministry Official on Conversion

LD2708194793 Moscow ITAR-TASS in English
1822 GMT 27 Aug 93

[By ITAR-TASS correspondent Anna Bakina]

[Text] Moscow August 27 TASS—Scientific research in the armaments sphere has become the basis for the development of modern equipment for medicine, power engineering and geology, head of the Russian Ministry of Atomic Energy's fifth main department in charge of nuclear arms quality Georgiy Tsykov told ITAR-TASS here today.

Sharp reduction of the state order for upgraded nuclear arms and termination of nuclear tests have prompted the department to boost the conversion. Its principle is the maximum use of high scientific potential and batch production at the ministry's plants.

Enterprises of the department participate in the implementation of nine branch comprehensive conversion programs of the Russian Ministry of Nuclear Power Engineering. They are the main executor of programs with the themes "creation of communications system on the basis of fiber-optics equipment components," "micro-electronics, computer and automation means" and "development and batch production of electric power plants with electric-gas insulation."

They are also developing a roentgen computer tomograph, mobile medical complexes for various uses, laser operation meter of eye cornea curvature and devices for short-wave therapy of ulcer and oncology.

Much is being done for the fuel and energy complex: the enterprises are working to create a system of telecontrol and management of gas transportation objects to be installed on Russian gas pipelines and a set of technical means for underground prospecting of natural resources.

An integrated fiber-optics system is being developed to ensure all types of communication on the single channel with the speed of 500 megabit per second.

Neutron and roentgen generators created by the department specialists will help to inspect the luggage at customs offices to reveal smuggling of explosive and other substances prohibited for transportation.

Problems in Chemical Weapons Destruction

Hazards From CW Programs Surveyed

93WC0102A Moscow SEGODNYA in Russian No 41,
10 Aug 93 p 10

[Article by Lev Fedorov: "The Military-Chemical Past Will Have To Be Analyzed Without the Help of the Generals"]

[Text] Five days after the Russian Convention on Chemical Disarmament was signed, on 18 January 1993, the Committee of the Russian Federation Supreme Soviet on Ecology and Resource Conservation and the Committee on Industrial Policy heard a report by General Kuntsevich on the projected program for the elimination of chemical weapons in Russia. The program was politely rejected after some impressive "field reports."

The reason was trivial: The general's report seemed to ignore our military-chemical past. This created a paradox. On the one hand, there is "local" unrest with regard to the ecological safety of destroying Russia's existing stocks of chemical weapons, amounting to 40,000 tonnes, while the generals see this as a sign of a bright future—full unemployment until 2005. On the other hand, nothing is being said about the origins of these tonnes, as if they have no lethal implications, as if they materialized out of nowhere, and were not put together by the hands of people, at the risk of their health and their very lives. In general, the general seemed to have forgotten everything about the origins of our chemical stockpiles, although he unhesitatingly identified himself as the chairman of the Russian Federation Presidential Committee on Chemical and Biological Weapon Conventions.

We will not ask the president why we need a general who is suffering from amnesia—although it does not say much about his choice of personnel. Apparently, the polluted past will have to be reconstructed without his help.

The Soda Production Association in Berezniki (Perm Oblast) produced around 10,000 tonnes of mustard gas in the war years. The plant was old, built before the revolution, but its yperite output was a product of Stalin's first five-year plan and the hard labor of the first wave of political prisoners. The sewage from Special Shop No 10, where the mustard gas was produced, was never decontaminated: Sewage treatment plants were not part of Stalin's first five-year plan. During the war the concentration of mustard gas in plant sewage was 156 mg/l on the average, and it frequently reached 320 mg/l, approaching the water-soluble level for yperite. The subsequent fate of the sewage is obvious: The plant stood on the banks of the Kama.

When remodeling plans were discussed in the middle of the 1950s, it turned out that renovation was out of the question: The whole mustard gas production unit had to rebuilt. Even then, however, the designers did not take the trouble of solving the sewage problem, and there is no mention of it in the original plans.

The Khimprom Production Association, on the outskirts of Stalingrad, produced less mustard gas—around 6,000 tonnes. This is quite excusable in view of the fact that future Field Marshal Paulus planned to spend the cold winter of 1942-43 in that region. In just over a year, however, the plant accomplished a great deal—most of the personnel of Shop No 2, where the mustard gas was produced, were killed. The people who poured the yperite in Shop No 11 were in the same position, because pouring controls were neither good nor bad—they were simply nonexistent.

At the end of the war, it was obvious that conditions were also intolerable on the yperite front, which led to the issuance of a joint order in 1945 by the USSR Ministry of Health and Ministry of the Chemical Industry on safe methods of producing mustard gas (at all plants, of course—in Stalingrad and Berezniki, and in Chapayevsk and Dzerzhinsk). This order was "forgotten" like everything else. When shop renovation plans began to be drawn up in the early 1950s, the designs did not include automated control systems and still relied on "the man in the gas mask." Furthermore, they decided to use the old—caustic—method of purifying gas emissions, which only works under strictly controlled conditions. The slightest deviation causes the yperite to.... Anyway, the Volga was right there.

The first plant where capacities for the industrial production of mustard gas were established, back in the late 1920s, was located in Chapayevsk (Samara Oblast). It is a chemical fertilizer plant today. In fact, however, Shop No 4 (where most of the workers were men ineligible for military service) produced around 10,000 tonnes of mustard gas just between 1941 and 1943. They also started producing lewisite at that plant in 1941, but in another special shop (No 7), and the wartime output of lewisite was also sizable—4,400 tonnes. The yperite and lewisite were poured in four "women's" shops (Nos 52-55).

How were these people doing when "the war marched through Russia"? Production rejects and waste were not a result of human carelessness: There were no instruments to control the last stage of the process (the synthesis of the yperite itself). There were no technically advanced machines to pour the yperite and lewisite. The "socialist engineers" never saw any, incidentally, until they went to Germany in 1945 for industrial requisitions. The disposal of rejects was a simple process: It was done by the "guilty parties" in their free time. This came after an 11-hour shift in a gas mask and protective coveralls. Incidentally, there was always a shortage of these coveralls, and the gas masks were an off-brand. It is not surprising that there were 280 disabling accidents and 177 cases of occupational illness at the plant in just the first half of 1941. The figures kept rising after that.

The plant in Chapayevsk had a special dump, which has also been forgotten. Waste yperite and lewisite were burned there throughout the war. The defective weapons, which numbered in the tens of thousands by 1945, were incinerated, and the yperite and lewisite were also burned. In addition, the plant and the dump were then located on the

banks of the Chapayevka River, which does not exist today. The sewage from the plant ended up in the Volga.

After the war Shop No 54 had to be demolished because it was so contaminated. The rest were remodeled, and this always entailed battles with the sanitary and epidemiological service because not one of the initial renovation plans evinced any "concern for the human being."

The Kaprolaktam Production Association in Dzerzhinsk (Nizhniy Novgorod Oblast) is only one of a series of chemical weapons plants that wove a comfortable nest for itself in the "chemical city" on the banks of the Oka. This plant was also heavily involved in chemical warfare. It did not begin until 1941, but it made a valiant effort, producing 50,800 tonnes of mustard gas (Shop No 3) and 15,900 tonnes of lewisite (Nos 14 and 55) by 1945. All of this wealth was poured into munitions and sent to weapon depots and military bases. The state of safety procedures can be judged from just the following statistics: In 1942 there were 1,585 cases of occupational illnesses in just the special shops and 112 in the rest (which were no picnic either). The overall rate of personnel turnover was close to the rate on the front. Furthermore, by an ironic twist of fate, it was the special shops that experienced an acute shortage of special work clothing throughout the war.

The observant reader will have noticed that just the four plants mentioned in this article produced almost 80,000 tonnes of yperite and 20,600 tonnes of lewisite by the end of the war. At the meeting in the Russian Federation Supreme Soviet, we were told about the destruction of only 7,700 tonnes of yperite and lewisite (chemical weapons of other types make up the rest of our present 40,000-tonne supply). This indicates a particularly serious shortage of yperite—we were told about only 690 tonnes (of 77,400, I remind you).

Anyone who thinks that "all of this is buried in oblivion" should know that lewisite is an arsenic weapon, and Napoleon was not the only one who died of arsenic poisoning. Incidentally, arsenic was found recently in artesian wells in Chapayevsk. The yperite situation is just as bad. There are colossal amounts of products of yperite decomposition in the environment, and many of them are highly toxic and quite persistent. The burning of yperite produces many carcinogens. This last fact can be fully appreciated just from the information that the combustion of a large shipment of mustard gas on a base in Kambarka (Udmurtia) in the 1960s caused the cancer deaths of all (!) of the servicemen involved in this operation.

Therefore, we should not wait for new deaths in our own generation and illnesses in the next. Let us tour the sites of the labor and combat glory of yperite and lewisite. We need the memoirs and recollections of the workers at those plants, so that we can trace the fate of the people who were victimized by the production process and the fate of the emissions and sewage that pose a potential threat to future generations.

After that, we could also consider measures to restore the health of those people and of nature. We will have to do this without the help of the generals.

Chetek Firm Proposes Nuclear CW Destruction Plan

93WN0590A Moscow *NOVOYE VREMYA* in Russian
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[Article by Oleg Vishnyakov containing an interview with Viktor Kutsenko, chairman of the Chetek board of directors; place and date not given: "The Atomic Bomb as a Solution to an Ecological Problem: An Inconceivable Project of Destroying Chemical Weapons by a Nuclear Blast May Turn Out Not So Inconceivable"]

[Text] When on 1 June 1990 Presidents Bush and Gorbachev put their signatures under the agreement on nonproduction and destruction of chemical weapons, it became clear that these weapons of mass destruction were just about to fade into oblivion.

Soon the Ministry of Defense developed a comprehensive program for a phased destruction of the chemical weapons stockpile; it assumed that chemical warfare agents would be partly burned, and partly reprocessed into usable substances. The chief organizer and ideological inspirer of the project was Anatoliy Kuntsevich, in the recent past a general in the USSR chemical warfare complex, who suddenly was appointed to head the Committee for Conventional Problems of Chemical and Biological Weapons under the president of Russia. The Kuntsevich Program was to be stretched over 10-15 years and by most modest estimates would have cost the taxpayers half a billion dollars. Where to get this much money the military never figured out, apparently counting on the state budget and "humanitarian aid" on the part of the United States.

Despite the lingering doubts, Kuntsevich's committee was confidently "pushing" the program through the channels, when suddenly on 19 January—several days after Russia had signed the Geneva Convention on Chemical Disarmament—a flap occurred at the hearings in the Supreme Soviet's Committee for Ecological Problems and Rational Use of Natural Resources: The program was resoundingly shot down.

What now? The Ministry of Defense and Kuntsevich's committee had been seriously counting on the millions the Russian and U.S. Governments intended to appropriate for the destruction of our chemical warfare arsenal, and now will do everything possible to keep the "outsiders" from getting a piece of this juicy morsel. I anticipate that they will make more than one attempt to again approach the Supreme Soviet with their program—perhaps slightly modified "to take into account criticisms and proposals."

The generals maintain that only those who had armed the country with chemical weapons can disarm these weapons. The facts, however, point in the opposite direction: Currently there are at least several alternative proposals on how to get rid of the 40,690 tonnes of chemical warfare agents we have accumulated over the past half century. Some time ago one such proposal set the world of science abuzz.

Is the "Nuclear Mafia" Waiting for Its Turn?

In March 1991, at the Pugwash Movement conference in Moscow, a representative of the USSR Ministry of Medium

Machine Building made a statement that startled those present: According to a Minatom [Ministry of Atomic Industry] staffer, the Arzamas-16 Federal Nuclear Center had been conducting research into the possibility of using nuclear blast energy to destroy the stockpile of chemical weapons and highly toxic industrial waste, as well as some parts of the nuclear arsenal subject to disarmament provisions. The tentative site for conducting the first destruction experiment—the Northern Nuclear Testing Site at Novaya Zemlya.

Most startling was not even the fact that this kind of research was being conducted in the formerly top secret institute, but the news that all research within the framework of this program was being funded by a private company—Chetek [Man, Technology, Capital], which, the statement went on, does not preclude the possibility of putting this technology to commercial use. The meaning of this was supposed to be as follows: Developed countries, should they wish so, will be able, for a substantial remuneration, to shift the burden of concerns regarding their radioactive and other waste onto the shoulders of Chetek and Minatom.

The reaction of the press, environmentalists, as well as the official structures, was instantaneous and amazingly uniform: The company was labeled an "offspring of the CPSU" and of the "atomic mafia" and accused of an attempt to enrich itself by turning its own country into a garbage dump of the West.

The company was forced to "lie low." It did begin to look like Chetek either had indeed been an offspring of Minatom and its structures, or that some fortune-seekers had decided to make a major kill but the attempt failed.

The information on the company that seeped into the press from time to time did not shed much light on the situation. Half a year ago in a newspaper interview Viktor Mikhaylov, Russian minister of nuclear power generation, replied to a question regarding Chetek that the company was experiencing financial difficulties and gradually was moving away from the problem of chemical weapons destruction. However, the recent statement of Valeriy Menshikov, deputy chairman of the Supreme Soviet's Committee on Ecological Problems, was of a completely opposite nature: According to information in the deputy's possession, Chetek had no intention of giving up on this dangerous idea and together with nuclear scientists in Arzamas-16 continued to work on its perfidious plans.

The Chetek office is located in the very center of Moscow, on Varvarka Street, in what used to be a church. Some foreign journalist maintained a year ago that in the basement of this building one could buy "on the cheap" a nuclear bomb of the most recent modification.

Viktor Kutsenko, the chairman of the company's board of directors, is at a loss as to who this "sensational" information could come from: "There has never even been a basement in this building."

A Company Shrouded in Darkness

The 43-year-old Viktor Kutsenko, a graduate of Kharkov University, had worked for some time in the banking and

finance spheres, and then moved on to science. He defended a thesis on the impact of scientific and technical progress on the growth of the national income. Over the past few years he headed the scientific research coordination service in the Turkmen Academy of Sciences and at the same time headed the development of forecasts for the republic's scientific-technical and socioeconomic development. Five years ago, together with Grigoriy Grigoryants, the company's current president and at the time a deputy director of a local physics and technology institute, he set up a science and technology center in Ashgabat, which later became one of Chetek's cofounders.

[NOVOYE VREMYA] Viktor Borisovich, who else were the founders of your company?

[Kutsenko] There were several: a Kharkov aviation production association; the Kobra-Bank commercial development bank; Kharkovkommunpromvod—a large industrial waste purification enterprise; and scientists-designers, who contributed their intellectual property as their share of the charter capital. Currently Chetek has more than 100 stockholders—legal and physical persons, including several Western companies.

[NOVOYE VREMYA] What about Minatom?

[Kutsenko] Never. I repeat: Neither Minatom nor any of its structures have even been among the company's stockholders. This is easy to verify.

[NOVOYE VREMYA] In this case, what is the story of your relations with the "atomic agency"?

[Kutsenko] We were aware that in the environment of the country's economic crisis science had been hurt more than other national economic sectors and, therefore, chose a specialization that is rather rare in the modern Russian business: investment in promising scientific development. Eventually this would allow not only the earning of substantial profits but also, to the extent possible, would preserve the national intellectual potential. Therefore, when we learned in the beginning of 1991 that the Arzamas-16 Federal Nuclear Center was conducting large-scale development of a technology to use nuclear blasts for the destruction of chemical warfare agents, we immediately offered our help.

It should be mentioned that Arzamas-16's leading scientists—Aleksandr Chernyshev and Yuriy Trutnev—had started research in this area as early as 1987. Up to 1991 all research was financed from the Minatom budget. Naturally, there was never enough money. Therefore our offer to partially finance the project was very much welcome. Minatom also liked this idea of a union between science and business, which provided worthy engagement for thousands of nuclear scientists left without work and averted the inevitable "nuclear brain drain" abroad.

Chetek has indeed invested about 7 million rubles [R] in the program (by preliminary estimates, the entire project at the time cost about R130 million—O.V.), but financing was soon interrupted because of financial difficulties. Recently we have resumed financing for the project.

I would like to emphasize once again that Chetek by itself does not have access to nuclear facilities, does not possess nuclear technologies, and therefore cannot independently conduct any sort of testing.

[NOVOYE VREMYA] How do you explain the fact that the project has not yet received a broad support among the "masses?"

[Kutsenko] We did find ourselves in an unpleasant situation with this program. Unfortunately, it was judged mostly by nonprofessionals who nevertheless have a certain influence on public opinion. There is, however, one more explanation.

Imagine that there does indeed exist a way to quickly, cheaply, and ecologically safely get rid of the chemical weapons stockpile. If this is so, the American program of phased destruction immediately loses its attraction. Chetek, having come up with a breakthrough technology, found itself drawn into a tough competitive struggle where all means are acceptable. Such a course of events, as we see it, did not suit many people in our country as well.

Meanwhile, the scientists' reaction to our proposal was more constructive. For instance, UPI recently reported that leading American experts came to the conclusion that the proposal may not be as outlandish as it may seem at first glance and "requires further study."

[NOVOYE VREMYA] Well, I think I am ready to believe that your technology is faster and cheaper. The ecological aspect, however...

[Kutsenko] Of course we are all concerned, too, with the ecological aspect of the program. All consequences of using this technology have been simulated by the designers themselves in laboratory conditions. Nevertheless, both the scientists and the Chetek management are united in this opinion: The final proof of its effectiveness and ecological safety may come only through a demonstration experiment with a nuclear blast. Naturally, such an experiment, if the government ever decides to undertake it, must be conducted under international supervision. We invite not only nuclear science professionals, but also various environmental movements, including Greenpeace, to cooperate on this.

It is the international community, in our opinion, that should render the final verdict on whether to use this technology, and if so, then where. In any event, the destruction of the chemical warfare stockpile should be conducted, in our opinion, on a detached territory instead of in the vicinity of densely populated areas, as the Ministry of Defense's program envisaged.

[NOVOYE VREMYA] Your project has at least one very obvious shortcoming: the need to transport the deadly substances from the bases to the destruction site.

[Kutsenko] Transportation will be done in hermetically sealed containers specially designed for this purpose. They will be destroyed together with the contents. Thus, there will not be a single stage where people would be in direct contact with the toxic substances *per se*.

[NOVOYE VREMYA] As a businessman, you cannot fail to understand that the company can only make a profit if the

technology is put to commercial use. Chances of that are small; nevertheless, you continue to put money into the program. What is it: "Hope dies last"?

[Kutsenko] It may seem strange at first glance, but for us profits are far from the main item in the program. The tricky question of the commercial use of this technology is, of course, also the exclusive province of the state. Chetek's position on this is as follows: If the government decides in favor of commercial use, we would like to recover the investment and direct the profits to meet the social needs of Russian nuclear scientists. We can make money on other projects.

[NOVOYE VREMYA] What kind of projects are these?

[Kutsenko] I will tell of three so far.

Chetek's main project is the program of expanded reproduction of agricultural crops on the basis of new technologies in the field of seed-growing (the Tera Program) and is already being realized full speed in the fields of Russia and Ukraine over the total area of about 60,000 hectares and bringing us considerable dividends. In this program, the company works in close cooperation with the space sector, in particular, Energiya Scientific-Industrial Association (Astronaut Aleksey Leonov is a member of Chetek's board of directors). Thus, the condition of the fields is monitored from orbit as well.

Our other program is a method to produce artificial humus from the sewage of animal husbandry complexes. Humus is a very important soil element "responsible" for its fertility. Its layer is lost irretrievably in the conditions of intensive farming. With Chetek financing, the scientists created within 2 years a system for humus production. Industrial testing was recently done in Ukraine.

Finally, another promising technology we are currently working on is the problem of utilization of ferrous and nonferrous metals shavings.

As you can see, Chetek has never invested money in any socially or ecologically dangerous technology, since it is contrary to its philosophy, and the "elimination program" is not an exception but a rule.

There is no doubt: The project is bold and unusual. And this makes one somewhat wary.

Speaking of the lack of commercial motives on the part of Chetek, its management definitely is not telling the whole story—if the program does indeed "materialize," it will provide fantastic advertising for the company.

It is possible that "nuclear technology" is not the best option. But to say this for certain would only be possible after field testing. Right now we are talking about just one experiment, no more.

The moratorium on nuclear testing announced by Russia expires on 1 July. [box, p. 48]

Fast. Cheap. Safe?

According to calculations, the plant for the destruction of chemical warfare agents, specially built in Chapayevsk in

1986 (which, by the way, had never been activated because of the protests of residents of nearby regions), or its American prototype on Johnston Island must operate for a hundred years each to destroy all the chemical weapons arsenal of Russia and the United States. Ten such plants can do the same over 10 years.

Nuclear technology envisages—given a favorable confluence of circumstances, to be fair—the destruction of 40,000 tonnes of chemical warfare substances by way of three to four blasts, with the frequency of one blast a year. Overall expenditures on the implementation of this program is 10 to 100 times less than for a phased destruction.

In the winter of 1991 specialists simulated at an experimental prototype the destruction of one gram of Iprit, Sarin, and industrial dioxin. The degree of the substances' disintegration was 10 to the sixth power, which is impossible to achieve using the traditional technology of burning and processing.

Latest Developments in Space Projects Reported

Alarm Over Space Program's Future

*PM1708130593 Moscow ROSSIYSKAYA GAZETA
in Russian 12 Aug 93 First Edition p 4*

["Point of View" article by Mikhail Morozov, member of the Russian Cosmonautics Federation Presidium Bureau: "Future of Our Cosmonautics. Peaks of Glory and Troughs of Decline"]

[Excerpts] It is universally known that the Soviet Union was one of the leading space powers in the world in the theoretical development [razrabotka] of space rocket problems, the construction of launch vehicles and their engines, spacecraft and space systems, and the production of space rocket equipment. Our country has amassed the richest, and in many regards unique, experience of studying the laws of space and of utilizing it in the interests of science and the national economy. Cosmonautics have become an enduring part of the people's lives. Dozens of states are cooperating with our country in space exploration. [passage omitted]

The Soviet state's successes in rocket building and cosmonautics have been recognized all over the world. Only dyed-in-the-wool philistines and unpatriotic people are unable or unwilling to recognize them. For almost 30 years the keynote in the Soviet and foreign press was an emphatically favorable attitude toward the achievements of our cosmonautics.

However, since the beginning of Gorbachev's perestroika, the authorities' attitude toward cosmonautics and the press's assessment of its role in the life of society and the state have fundamentally changed. Numerous mass media in this country and abroad launched, as if to order, a frenzied campaign to vilify the achievements of Soviet cosmonautics and to portray its history as a series of absolute failures, accompanied by a spate of speeches claiming that our cosmonautics is ruining the state and appeals to stop appropriations for space and rocket equipment. [passage omitted]

Was this turnabout in attitudes toward our cosmonautics accidental? Especially since, even in the most difficult present circumstances, our space technology is functioning reliably, backed up by the vast amount of work done in the previous decades. "Mir"—the only scientific complex we earthlings have in space—has been functioning in orbit for more than seven years now. Our country has at its disposal a large selection of rockets and engines for different purposes. Our intercontinental missiles are still protecting the peaceful lives of Russians. Many of our space rocket equipment technologies are up the highest world standards.

All this indicates that the campaign to vilify and destroy our cosmonautics has been organized by those for whom this is advantageous. It is clear from items appearing in many press organs that this is primarily to the advantage of the ruling classes in the United States. Leading figures in the United States, as well as in several other Western powers, dream of destroying not only our existing space technology but also the potential to develop it in our scientific research institutes, design bureaus, and science and production associations. They are well aware that the space rocket complex plays a leading role in the development of all science and technology, of the most up-to-date technologies, and our state's defense. At the same time the United States is attempting to buy up on the cheap all that is valuable in the space rocket technology developed in our country. [passage omitted]

In fulfillment of instructions from the administration, plans have been drawn up and are being implemented in the United States to send U.S. specialists to Russia and other CIS states to vigilantly monitor the progress of conversion and to acquire advanced technologies. [passage omitted]

In the last few years many emissaries from the Pentagon and U.S. space companies have painstakingly studied our design bureaus and science and production associations and have set about implementing their plans.

The following fact is typical: While U.S. entrepreneurs have penetrated our space rocket complex, the last few years have seen sharp cutbacks in appropriations for the development and production of new models and for space exploration, while the labor collectives of many design bureaus and science and production associations are struggling to survive. The funds appropriated from the Russian state budget for space activity are so small (0.6 percent of budget expenditures) that, if they are channeled into supporting all the sector's enterprises, in 2-3 years' time Russia will be unable to either develop or produce new technology. In the opinion of the Russian Space Agency's leadership, only one course of action remains: To select a few dozen elite enterprises possessing the greatest experience and powerful creative collectives, and to guarantee them state orders. All the other enterprises in the sectors should be abandoned to market forces.

All the same, veterans of cosmonautics hope that the collectives of the space rocket complex, backed up by the best traditions of the recent past in cosmonautics, will manage to withstand even in the present extremely difficult situation and will preserve Russia's status as a space power.

In the present complex circumstances it is, in our opinion, very important to bring the full weight of public pressure to bear on preventing the destruction of the space rocket complex, which is a bulwark of our country's independence and pride.

The question of applying practically the results of work done in the sphere of cosmonautics and enhancing its role and effectiveness in scientific and technical progress is particularly topical in the current circumstances. There is plenty here to support and, at the same time, to criticize. It is well known that many technical and technological achievements from the development of new technology, as well as research carried out in space of importance for the national economy, are as yet under wraps.

Much remains to be done to write the history of our country's rocket building and cosmonautics. Though it is extremely rich in events, not much of it has been disclosed yet. A wealth of experience is to be found in records and in the memories of veterans who laid the foundations for the country's space might.

These are some of the results of comparing our cosmonautics's recent past with its position today. All who hold it dear are proud of its achievements and express alarm about its future.

Parliament Adopts Law on Activities in Space Research

*LD2008155593 Moscow ITAR-TASS in English
1455 GMT 20 Aug 93*

[By ITAR-TASS parliamentary correspondent Lyudmila Yermakova]

[Text] Moscow August 20 TASS—The Russian parliament has adopted a law on activities in space research which, unlike many others who reject space research, does not call to put an end to it but on the contrary, proceeds from that fact that the studies of the universe, which Russia was the first to begin, open new prospects for the world civilization.

The preamble to the law says that the exploration and the use of space, including the moon and other space objects, is one of the most important activities in the interests of citizens, society and the state. The law is aimed at ensuring "the legal regulation of space activities and promotes the use of the potential of space research in industry."

The law envisages that space activities should ensure access to space, help study the earth, promote the development of new technologies and enhance the efficiency of science, engineering and economy in general. The tasks of space research include ensuring the country's defence and control over the implementation of international treaties pertaining to armaments.

The law defined the tasks of the Russian Space Agency responsible for space activities at a state level and established that scientific research and the development of special equipment should be carried out in the framework of the federal space programme.

The Russian Government was entrusted to develop a statute on licensing space activities, on the order of the development, production and exploitation of space equipment and the registration of space objects.

Space Agency Director To Hold Talks With U.S. Counterparts

LD2108144293 Moscow ITAR-TASS World Service in Russian 0536 GMT 21 Aug 93

[By ITAR-TASS correspondent Anna Bakina]

[Text] Moscow, 21 Aug—Yuriy Koptev, general director of the Russian Space Agency (RSA), plans to leave for the United States on 24 August to meet representatives of the U.S. Space Department. An ITAR-TASS correspondent learnt this from well-informed sources.

The subject of the talks has not yet been announced. However, it is known that they will deal with cooperation between Russia and the United States in the field of space technologies, and will also touch upon the place of the Russian Federation in the world space market today.

Evidently, this meeting will rank as another step by Russia in the field of international cooperation in space, and changes may be expected. It will be recalled that past talks in the United States attracted world attention. Back then, Russia announced that it would not be able to implement fully a Russo-Indian contract that had been concluded earlier, particularly with regard to the transfer of rocket technology. "The agreement to supply India with rocket technology was clinched in different economic and political conditions," Yuriy Koptev said in conversation with an ITAR-TASS correspondent. In the opinion of the head of the RSA, the economic reasons referred to Russia's current grave financial situation. "India's space program is worth only 200 million dollars," said the general director of the RSA. "Whereas the launching alone of a commercial satellite costs 600-700 million dollars."

As Yuriy Koptev sees it, the political aspect of the matter related to the fact that: "Rocket technologies may be used for both civilian and military purposes. Therefore, the obligations imposed by the international rules for control over the nonproliferation of rocket technology do not allow [us] to implement all the points of the agreement in full."

Presumably, Russia's difficulties on the issue of commercial satellite launches will be discussed at the upcoming meeting. An international queue exists for such launches and the Russian state is not at the front of it. "Supply exceeds demand two and one-half times over," Yuriy Koptev said. "Russia has a good chance of 'bagging', at best, nine European satellite launches, and the possibility of launches to accompany the launch of U.S. satellites, as 70 percent of space equipment is produced in the United States. Therefore, in order to compete in the space business, you need to have an export license, and the significance of that lies not in money, but in the difficulty of obtaining it."

ESA Plans Joint Space Flights on Russian Station

LD3008143593 Moscow ITAR-TASS in English 1407 GMT 30 Aug 93

[By ITAR-TASS correspondent Veronika Romanenkova]

[Text] Moscow August 30 TASS—The European Space Agency (ESA) plans to launch two astronauts aboard a Russian space ship in September 1994 as part of a larger space exploration programme to be carried out in cooperation with Russia.

The ESA is interested in cooperating with Russia in manned space flights, Frederik Engstroem, head of the ESA department of space station and microgravitation, said. He said preparations are underway for two joint space flights.

The first space expedition dubbed Euro-Mir-94 will blast off in September 1994 and will last 30 days. Russian and ESA astronauts will carry out medical, biological and material study experiments aboard the orbiting station Mir. The second flight is scheduled for August 1995. It will last 135 days. Engstroem said that ESA astronauts will perform the duties of flight engineers and will take a space walkout.

The ESA astronauts who are training now at the Russian space centre outside Moscow are: Euro-Mir-94 crew—Pedro Duque (Spain) and Ulf Merbold (Germany), and Euro-Mir-95 crew Christer Fuglesang (Sweden) and Thomas Reiter (Germany).

Space 'Apparatus' To Be Launched With German Sub-Satellite

LD3008100993 Moscow ITAR-TASS in English 1001 GMT 30 Aug 93

[By ITAR-TASS correspondent Semen Ivanov]

[Text] Moscow August 30 TASS—The meteorological space apparatus "Meteor-2" with the German-made micro-satellite "Temisat" on board is scheduled to be launched into space from the Russian plesetsk cosmodrome by booster rocket "Cyclone" on August 31.

The Temisat was made by the "Kaiser Trade GMBH company" on the order of the Italian "Telespazio" company for purposes of ecological monitoring of the Mediterranean, mainly in the area of the Apennine peninsula. The weight of the sub-satellite is 25 kilograms and it is designed in the form of a cube 35 centimetres long at the sides.

It will be the 24th consecutive launching since 1975, when the use of meteorological satellites of the second generation began, and will be the last one since no further production and exploitation of such satellites has been envisaged.

The Meteor-2 will be operated, as usual, by the space mission control centre. In 10 hours and 42 minutes after the satellite is launched a command will be given for the separation of the German micro-satellite. The further flight of the Temisat will be controlled by German and Italian space centres.

KAZAKHSTAN

Nazarbayev Offers Comments on Nuclear Issues**Gives Interview in Moscow**

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[Interview with Nursultan Nazarbayev, president of Kazakhstan, by MOLOD UKRAYINY special correspondent Vitaliy Portnykov in Moscow; date not given: "Nazarbayev's Position"—first paragraph published in boldface]

[Text] The president of Kazakhstan remains one of the most influential politicians on the territory of the former union, and his political position continues to interest other presidents and observers alike. I took advantage of Nursultan Nazarbayev's arrival in Moscow, where he was participating in the meeting between the leaders of Russia and Central Asia, and asked the Kazakhstan leader about his present views on the problems of the CIS, the relations among its members, and the role of Kazakhstan in the Commonwealth [of Independent States].

Portnykov: Mr. President, it was proposed at the meeting between the presidents of Russia and the Central Asian countries, that as early as on 7 September an economic union be established in Moscow between the CIS countries. Earlier, an initiative such as this had been issued from Almaty. However, recently, the prime ministers of Ukraine, the Russian Federation, and Belarus, without the participation of Kazakhstan, have come out with this initiative to create such an economic union.

Nazarbayev: As you have noticed, I did not in any way respond to the statement by the three governments. This was something quite similar to what happened in December 1991. Such a union is impossible without Kazakhstan or Uzbekistan. I proceed from the fact that bilateral and tripartite accords may be signed within the CIS. The countries of Central Asia and Kazakhstan also have their own relations, because we help one another. I believe that we must proceed along the road upon which we embarked when we signed, on 14 May, the agreement on the creation of an economic union. There may be various relations within this union.

I do not even want to respond to the accusations regarding the meeting between the leaders of Central Asian countries and their neighbors that was held in Istanbul: Those accusations issued from Russian [Vice] Premier Shokhin and have already been refuted by President Yeltsin and Premier Chernomyrdin. No documents were signed there. Of course, if Russia chooses not to allow the transit of goods, oil, and gas across its territory—although the state is always interested in offering such transit, because it gets payment for it—then we will have to look for other ways of emerging onto the world market. That is why we, in Istanbul, discussed, for example, the question of building a highway from Kazakhstan to Islamabad, the use of the Caspian Sea, and also railroads for going to Europe via the Bosphorus. However, in my speech there, I emphasized that there can be no economic alliance in that region without Russia or Ukraine.

Portnykov: How do you envision the future CIS?

Nazarbayev: It will depend upon those who manufacture products and upon the strengthening of horizontal ties. At my initiative, the industry ministers of the CIS countries and also of the former Soviet republics that have not joined the CIS gathered in Karaganda and created a council of industrialists. Commodity producers must sell their products somewhere.

It is bad that we, in the CIS, have failed to study how the European Community functions and how its committees work. We must catch up with this.

Portnykov: What will be the fate of a Kazakhstan national currency? Are you going to introduce one?

Nazarbayev: Speaking about the measures that Russia recently implemented on its own territory by introducing its own ruble: If I had been Russia's leader, I would have done the same. Here, one should not be angry with it [Russia], but must realize that this state must have its own ruble. I have known about it since March and we have been making preparations for it together, because Kazakhstan wishes to remain within the "ruble" zone. However, this does not mean that we want to remain with the ruble that is presently in circulation in Russia. It is only essential that such questions be resolved jointly with the friendly country and by helping one another. We are still using the old ruble and, if we so decide, we will turn to Russia with a request to print our own currency at Russian factories. What is wrong with this? Then we will create a normal currency union. When all states adopt their own currencies, it will be immediately obvious who is who. As things stand at present, it is not clear who lives in poverty and who prospers.

Portnykov: How do you see the prospects for a settlement of Central Asia's main "hot spot"—in Tajikistan?

Nazarbayev: To begin with, commanders of border troops of the CIS countries have signed documents to have the borders of the CIS countries constitute a single border of the Commonwealth [of Independent States]. However, the main burden falls, of course, upon the Russian border guards. It is necessary to understand the following circumstance: Some people say that there are 100,000 refugees from Tajikistan in Afghanistan, but chairman of the Supreme Council of Tajikistan stated that 40,000 of these have already returned home; therefore, there remain 60,000. Everything must be done in order to return these refugees. Talks with the opposition must be started. If they [the opposition] are afraid to gather in Dushanbe, I have proposed Almaty. I will guarantee their security. After the present leadership comes to an agreement with the opposition, nationwide elections must be held.

If there had been no refugees there, it would have been clear who is fighting there, Tajiks who escaped there or mujahidin. We know what happened in Afghanistan and we know on what grounds the civil war started in Tajikistan. I do not want to cast aspersions upon Islam as a religion, but there are extremist currents there. If the "Tajik scenario" develops further, it will be very difficult to save the situation in Kyrgyzstan and Uzbekistan. This is already on the border

of Kazakhstan. If we allow the same to happen in Kazakhstan and then in Tatarstan and Bashkortostan—can you imagine what will happen? That is why I would not oversimplify the situation. The interests of all have now clashed. Perhaps, this is simply a test? On one stretch of the border? But I cannot help wondering: If these are refugees, then where did they get their "Stingers" from?

Portnykov: What is Kazakhstan's attitude toward the nuclear weapons located on its territory? Could you comment upon Ukraine's position on this issue?

Nazarbayev: I will not comment upon Ukraine's position. I will only speak for myself. Kazakhstan signed START-I and was the first to ratify it, even before the United States, and will fulfill all of its requirements. We are not inclined to resort to any maneuvers. We have an agreement with Russia and we have a joint command of the strategic forces. The president of Kazakhstan has the possibility of blocking the use of the weapons that are located on our territory. We are going to fulfill the requirement to have 50 percent of the weapons destroyed over seven years. Kazakhstan will also join the Nuclear Nonproliferation Treaty.

Calls for Testing Moratorium Until 2005

*LD3008113993 Moscow ITAR-TASS in English
1129 GMT 30 Aug 93*

[By ITAR-TASS correspondent Feodor Ignatov]

[Text] Almaty August 30 TASS—President Nursultan Nazarbayev of Kazakhstan appealed to the governments of all nuclear powers to prolong until the year 2005 the moratorium on testing nuclear, chemical, biological and other kinds of mass annihilation weapons.

He was speaking to participants in an international anti-nuclear forum in Almaty.

Nazarbayev said Kazakhstan used to be a nuclear testing site for all republics of the former Soviet Union but now it is left alone to deal single-handedly with the problem of social insurance to people who had suffered from the tests. Historically, morally and ecologically it is not fair, Nazarbayev said. Continuance of obligations assumed before the people cannot be lifted, particularly from politicians.

Kazakhstan needs technological, engineering and ecological assistance from the countries which have amassed experience in the field. Another pressing problem is what to do with plutonium from dismantled warheads. The problem must be solved in conformity with international agreements.

"We believe that Kazakhstan, Ukraine and Belarus must take part in discussing a comprehensive agreement on banning tests of any mass destruction weapons on a par with Russia and other nuclear countries.

Nazarbayev said Kazakhstan was ready to put forth an initiative for compiling a single global register of all people afflicted by radiation from nuclear blasts and atomic incidents. He said the World Health Organisation and international ecological organisations could undertake the job.

Speaking about the effect of nuclear testing on the Chinese testing site Lop-Nor not far from the border with Kazakhstan, Nazarbayev noted that there was a vast field for cooperation in cleaning-up the after-effects of nuclear blasts in the interests of the two peoples with the participation of Chinese and Kazakh scientists and business communities.

Participants in the congress spoke in favour of establishing an international fund under the U.N. aegis to help people in territories affected by effects of nuclear tests. All nuclear countries must become the fund's members, they said.

Activists Call for Closing of PRC Nuclear Test Site

*LD2608132193 Almaty KAZTAG in Russian
1200 GMT 26 Aug 93*

[Summary] Almaty [no dateline as received]—Activists of Kazakhstan's anti-nuclear movement are planning a peace march before the end of the month. Its purpose is to close down the Lop-Nor nuclear test site in China. It will begin with a public prayer and a demonstration by representatives of the republic's patriotic forces at the tomb of Rayimbek-Batyr, who was the leader of the Kazakh Liberation Movement against the Zhungar invasion. The march will end at Khorgos gorge on the Kazakhstan-Chinese border, where a remembrance service will be held for those who died as a result of nuclear tests carried out by the former USSR, the United States, China, France, and Great Britain.

It is anticipated that a similar action on a smaller scale will be carried out by peaceful movements on the Chinese side. The upcoming march is the third action by the republican people's headquarters for eliminating nuclear test-sites—"Attan" [Kazakh for "march"]. During previous actions a few months ago, demonstrations were held near the Chinese Embassy. The Chinese side viewed this as interference in their internal affairs. However, the organizers of the march published data that testifies to the damaging impact of Lop-Nor on Kazakhstan's health because of its close location to the republic's borders.

Official republican circles abstain from openly supporting the movement, as they do not want to aggravate relations with their powerful neighbor. This explains why the relevant authorities have prevented the people's headquarters from carrying out action in the Khorgos gorge. The reason for this is the violation of the existing border regime. However, Amantay Asylbekov, the leader of the movement, declared that the planned action will be carried out at all costs, due to the need to protect the environment and health of the people of Kazakhstan.

Vice President Asanbayev, U.S. Aerojet Leaders View Ties

*LD1908090993 Almaty Kazakh Radio Network
in Kazakh 2300 GMT 18 Aug 93*

[Text] Yesterday Vice President Yerik Asanbayev received a delegation of the U.S. aerospace corporation Aerojet, which is on a visit to Almaty. It is a leading company in the area of air and space development and a member of an

association of the U.S. aerospace industry. It has implemented Apollo and shuttle programs and at present, on order from its government, the corporation puts into effect demilitarization projects in a number of foreign countries including Russia and Ukraine.

During the meeting Yerik Asanbayev focused his attention on the fate of Baykonur, mankind's first space launch. Having at its disposal powerful scientific-technical potential the space launch unfortunately is currently standing idle. The Kazakhstan Government wants this unique facility to serve in the interests of the republic and the whole world. The vice president suggested that the American corporation take part in the creation of an international space company and participate in the conversion of the military-industrial complex of the republic. He went on to note that Kazakhstan intends to tackle all these issues with the broad participation of international companies and organizations.

The leaders of Aerojet, its president (Wilbur Rore), and the main designer (Jerry Thomson), displayed interest in these suggestions and showed readiness to support them and get involved in the use of the available and develop new space technologies along with Kazakhstan's aerospace corporation Toscam.

The same day members of the U.S. delegation met with the director-general of the national space agency, Tokhtar Aubakirov, and Deputy Foreign Minister Kasymzhomart Tokayev. Under discussion during the meeting were specific programs for cooperation between Kazakhstan and the Aerojet corporation.

On 19 August the guests will leave for Baykonur.

UKRAINE

Defense Minister Morozov on Memorandum Signed With U.S.

URYADOVYY KURYER Summarizes News Conference

AU1208112993 Kiev URYADOVYY KURYER in Ukrainian 10 Aug 93 p 6

[Unattributed report: "As the Minister of Defense Said...."]

[Text] For 5 days, Ukraine's minister of defense, Colonel General K. Morozov, was on an official visit in the United States. During his visit, a Memorandum on Mutual Understanding and Cooperation in the Sphere of Defense Between the Defense Ministries of Ukraine and the United States was signed. K. Morozov held negotiations in the State Department, with U.S. Vice President Gore, with National Security Adviser Lake, with the chairman of the Joint Chiefs of Staff, General Powell, and had meetings with a number of influential senators. The Ukrainian delegation familiarized itself with the functions of the National Command Center of the U.S. Armed Forces, took part in the presentation of the joint Ukrainian-American enterprise for reprocessing outdated (non-nuclear) munitions, met with American officers of Ukrainian origin, and also visited the Joint Command of

the NATO Naval Forces in the Atlantic. In addition to this, our minister personally piloted a F-18 fighter from an air base to an aircraft carrier.

At a news conference in Kiev, following his return from the United States, K. Morozov stated that....

- From the beginning of August, groups of experts of the Ukrainian and U.S. military departments are working in both capitals in order to elaborate the optimal trends for reforming and developing Ukraine's Armed Forces, in particular, with regard to the organization of professional service;
- From now on, Ukraine and the United States are partners in the sphere of defense and military cooperation;
- The creation in Ukraine of a Center for Scientific Strategic Studies staffed by U.S. representatives and Ukrainian scientists is envisaged;
- A similar agreement (Memorandum) with the Russian Ministry of Defense could not, so far, be concluded due to the still unresolved questions regarding strategic nuclear weapons and the division of the Black Sea Fleet. However, corresponding work aimed at bringing the sides closer together is under way;
- The dismantling of combat missile complexes has started in Ukraine. It is expected that, by the end of September, 10 missiles and 60 warheads will be removed and stored on the territory of Ukraine as our state's property. Specialists of the 43d Rocket Army are conducting this work. They are also guarding them, jointly with subdivisions of Ukraine's Armed Forces. It is envisaged that the missile fuel will be processed in Ukraine;
- The threat to Ukraine's security arises in those cases when territorial claims are made upon it and a policy of pressure and blackmail is pursued. We make every effort to achieve mutual understanding with all of our neighbors, first and foremost, with Russia;
- There will be no military parade on Ukrainian Independence Day. This enjoyment is too expensive. However, units of Ukraine's Armed Forces are ready to demonstrate their drill proficiency if the supreme organs of state administration decide so.

'Positive Shift' in U.S. Position

WS1308133893 Kiev KYIVSKA PRAVDA in Ukrainian 5 Aug 93 p 1

[Report by O. Novak: "General Morozov in the U.S. Skies"]

[Text] Colonel General Kostyantyn Petrovych Morozov, Ukrainian defense minister, has just returned from a visit to the United States of America. Interest raised by his trip is evidenced by the fact that all of the chairs in the Kiev Officers' Club, where the general held a press conference upon his return, were filled long before the conference began. Needless to say, there were more than enough questions.

The defense minister noted that the results of his official visit overseas testify, first of all, to a positive shift in the

U.S. position toward our sovereign country. The officials with whom K. Morozov met and held discussions expressed an understanding of Ukraine's stance on nonviolability of its borders and territory, as well as its resolve to settle any disputes by means of negotiations. In addition to U.S. Defense Department representatives, our defense minister met with Vice President Al Gore; National Security Adviser Lake; Richard Lugar, member of the Foreign Relations Standing Committee in the U.S. Senate; and many other officials.

Obviously, the defense minister's negotiations repeatedly touched upon the position of the Ukrainian legislature on ratifying the treaty on preserving strategic weapons. Kostyantyn Morozov informed the Americans that the dismantling of the first ten long-range SS-19 missiles was under way as early as 15 July and will be completed by late September. After that, other nuclear rockets stationed on Ukrainian soil will be scrapped. All the dismantling work, noted K. Morozov, is being conducted by Ukrainian experts and military specialists from the 43th Rocket Army. To carry out the destruction of the nuclear weapons, said K. Morozov, Ukraine requires more than \$2 billion. As is known, the United States agreed to extend \$175 million for this purpose, which can only be viewed as a symbolic gesture.

The 5 days spent in the United States by our defense minister were full of many other events designed by the hosts to underscore their friendly attitude toward our state and in particular, the Ukrainian defense minister. For example, K. Morozov was afforded an opportunity to visit a range of U.S. military facilities and meet with American servicemen of Ukrainian descent that are united in a national association. Of course, Colonel General K. Morozov, a military pilot himself, will long remember the flight he took aboard the modern supersonic F-18 fighter followed by landing on an American aircraft carrier.

At the end of the visit, Ukrainian Defense Minister K. Morozov and his American counterpart, Les Aspin, signed a memorandum on the consensus. According to U.S. defense minister, this kind of agreement is the first entered into by a republic of the former Soviet Union.

Deputies Believe NPT Should Be Signed in 1995

WS3008094693 Kiev KHRESHCHATYK in Ukrainian 12 Aug 93 p 3

[Report by Volodymyr Ivanenko and Dmytro Mosiyenko: "Ukraine Has Not Sent Missiles To Russia...And She Will Scarcely Do It"]

[Text] Reports state that after the dismantling of 10 RS-18 intercontinental ballistic missiles in the vicinity of Khmelnytsky, their nuclear warheads were deposited on the Ukrainian territory and the carriers were sent to Russia. These reports are not true. As an officer from the Ukrainian Armed Forces Headquarters Administrative Department of Strategic Forces announced, the missiles were indeed dismantled, but the carriers still remain in the silos. The reason is a dispute between Russian and Ukrainian governments over the issue of material and financial compensation for the property.

During the 17 July meeting in Zavidovo, Presidents Boris Yeltsin and Leonid Kravchuk agreed on the Russian guarantee of security and assistance in the nuclear disarmament of Ukraine. They agreed that:

- Russian military specialists, in compliance with the central command system established in the USSR, will take under their management the maintenance of the nuclear warheads and general units of the missiles installed in the two Ukrainian nuclear bases;
- Warranty service provided by Russian and Ukrainian specialists, plants, and general constructors is being renewed on the strategic missiles' complexes in Pervomaysk and Khmelnytsky.

It was agreed that all operations would be conducted by the most qualified Russian specialists. To facilitate this, Ukraine would lift all border and political barriers, and both states would begin to finance the process equally, whereby:

- During 1994-95 in Ukraine, six strategic missile regiments—in which the guaranteed periods of combat complexes will have expired—will be disbanded;
- The largest Ukrainian plants in Kirovohrad, Kharkiv, and Dnipropetrovsk that have been idle due to a lack of state procurements and financing will participate in missile complex maintenance;
- Russia will utilize nuclear warheads and convert highly enriched uranium remaining after warhead destruction into low enriched uranium that can be reused in Ukrainian nuclear power plants. It will also provide long-term storage for nuclear components after utilization of the warheads;
- Ukraine will receive its share in foreign currency payments for uranium components processed in Russian plants and sold abroad.

The repercussions that follow the Russian legislature resolution on the status of Sevastopol have eliminated some expectations roused by the June meetings of Ukrainian and Russian presidents and prime ministers. Among them are hopes tied to the signing of the two agreements on nuclear warhead utilization and their storage on Ukrainian territory. Two months have passed since the mentioned meetings, and it appears quite obvious that the word "soon" used in the communique should be replaced with "date unknown."

Ukrainian Foreign Minister Anatoliy Zlenko pointed out, in a restrained diplomatic manner, that "there remains an array of discrepancies related to the crucial interests of Ukraine." The main obstacle to signing the "Agreement on Utilization of Nuclear Warheads" and the "Agreement on the Status of 'S' [strategic] Facilities Dislocated in Ukraine" is the storage of nuclear warheads. The draft agreement provides for all "S" facilities situated in Ukraine to be under Moscow control. This is the cause of the dispute. As Ihor Derkach, peoples's deputy and member of the legislative commission for defense and state security issues, pointed out, Ukraine insists that "S" facilities come under its control as a storage place for nuclear warheads. Russia can

simply eliminate those facilities and Ukraine will depend on its neighbor for nuclear fuel: "When it comes to utilization and storage of nuclear weapons, I would prefer to deal rather with Washington than Moscow. They are really interested in disarmament over there... Russia will merely fool us. Now we rely on Russia for oil and gas, later we can rely also on tvls [teplovodylnyy element; heat emitting element] used in nuclear power engineering." The draft agreement reads: "The Russian side in accordance with its technical capabilities supplies Ukrainian nuclear power plants with heat emitting sets (complexes of tvls in the form of fuel regained during utilization—M.D.) recovered from nuclear charges. Deliveries should begin within three years after nuclear charges are supplied to Russian enterprises. Settlement of accounts should include expenses the Russian side bears during transportation, dismantling, and processing of fissionable materials obtained as a result of nuclear charges utilization..."

Under such circumstances, stresses Ihor Derkach, Ukrainian officials should adopt a more active stance on this issue, and insist that the United States fulfill all the promises of technical and financial assistance because lack of funds and technical capabilities dooms Ukraine to Russia. It seems that Americans are not going to undertake decisive measures, at least not before the START I treaty is ratified. The nuclear weapons storage issue is being complicated by the fact that many of the missile carriers are worn out. Recently, 10 SS-19 missiles were withdrawn from active duty. They were in catastrophic shape. Similar accidents can occur every year. Under such circumstances, it would be better to put more pressure on Washington, but in the opinion of some specialists, Ukraine is too passive. It only refutes accusations of being reluctant to sign the Nuclear Arms Nonproliferation Treaty [NPT].

Most deputies believe that Ukraine should not join the NPT and should wait until the Rome conference in 1995, where the treaty will have to be reviewed. In their opinion, the Ukrainian status issue should be put on the agenda during the conference. If Ukraine is forced to join a treaty similar to that of 1968, it would be a violation of its right to nuclear components of the strategic weapons located on Ukrainian territory.

Expert Summarizes Reasons Not To Sign START
AU1708170893 Kiev HOLOS UKRAYINY in Ukrainian
14 Aug 93 p 2

[Article by Academician Anatoliy Shevtsov, doctor of technological sciences, executive director and head of the branch of the Ukrainian National Institute of Strategic Studies: "Ukraine Has Determined the Fate of START-2. Is This True?"]

[Text] After START-2 was signed by the presidents of the United States and Russia and after the parliamentary hearings on this treaty in the Russian Federation, the theme of ratifying the new treaty has been discussed extensively in the press. In the course of a lengthy discussion, all arguments, both in support and against the ratification of START-2, have been expounded. There is no need to dwell

upon them in detail. In a concise form, the opponents of the treaty advance the following arguments.

First: This treaty is the achievement of the goal set by the U.S. side throughout the entire negotiating process—the elimination of the most powerful component in the strategic nuclear forces—the heavy SS-18 missiles and the solid-propellant SS-24 missiles.

Second: If the treaty is not signed, the United States will be able to raise the quantity of nuclear weapons to 7,000, but our country to just 4,500, and this is a violation of the parity.

Third: In accordance with the new treaty, Russia must spend much money, on the one hand, on the elimination of its most advanced strategic missiles and, on the other hand, on the elaboration and manufacture of new types of weapons: SS-25 intercontinental ballistic missiles [ICBM] and SS-N-20 submarine-launched ballistic missiles [SLBM].

The advocates of START-2, while, in fact, admitting the aforementioned shortcomings, are advancing a rather odd version to justify the adoption of concessions. For example, it is asserted, in the military bulletin published in the newspaper IZVESTIYA on 10 April 1993, that the decision to give up the SS-18 and SS-24 missiles is a forced one, because the "general designer of these missiles was the "Pivdenne" [Southern] Design Bureau in Dnipropetrovsk. Ukraine has adopted nuclear-free status, which envisages the inadmissibility of manufacturing strategic offensive weapons, which include, in accordance with international norms, intercontinental ballistic missiles."

It is difficult to suspect the authoritative participants in the discussion of having insufficient knowledge of what signify "international norms," and therefore it only remains to conclude: This conclusion is a case of wishful thinking.

For example, the leadership of Ukraine repeatedly explained the essence of the documents that were officially adopted by the Supreme Council regarding the nuclear-free status (the Declaration of State Sovereignty on 16 July 1990 and the statement by the Supreme Council on 24 September 1991 "On Ukraine's Nuclear-Free Status") and stressed Ukraine's intention to adhere, in the future, to the three nonnuclear principles: not to accept, not to manufacture, and not to purchase nuclear weapons.

The Lisbon Protocol on START-I (Article V) [Roman or Arabic numerals as published] that has not yet been ratified by Ukraine's Supreme Council envisages "Ukraine's joining, as soon as possible, the Nuclear Nonproliferation Treaty of 1 July 1968 as a member state that has no nuclear weapons."

Let us now refer to the above treaty. In accordance with its Article II, "every country that is a signatory to this treaty and that possesses no nuclear weapons is obliged not to accept from anyone..., not to manufacture and not to purchase..., and not to accept any assistance in manufacturing nuclear weapons or other nuclear explosive appliances," that is to say, it is nuclear weapons that are meant and not the means of their delivery. If the reader finds this

conclusion insufficiently obvious, we will quote one more excerpt from documents, which specify "international norms":

"...Nuclear weapons are understood as any appliances that are capable of liberating uncontrolled nuclear energy and have such a group of characteristics that enable their use for military purposes. The instrument that may be used for transporting or launching an appliance does not fall under this category if it is detachable from the appliance and is not its integral part."

The nuclear powers—the USSR, the United States, Great Britain, France, and China—joined the Tlatelolco Treaty by signing Protocol II of it, in which it is, in particular, stressed that the definition of nuclear weapons in Article 5 of the treaty will also apply to Protocol II "just like the regulations on the ratification, cautioning, denunciation..." and so on that are listed in the treaty (Article 4 of the Protocol). The definition of nuclear weapons as given in the Tlatelolco Treaty has been legally recognized by all nuclear powers.

It may be further added that questions of manufacturing and transferring missiles and missile technologies are regulated by a totally different international document—"The Conditions for Control Over Nuclear Technologies" that was adopted on 16 April 1987 and that can in no way restrict the transfer of missiles and missile technologies between Russia and Ukraine as successors to the USSR.

Consequently, it does not follow from the statements by Ukraine's Supreme Council on the intention to adopt, in the future, nuclear-free status, that it cannot manufacture, on its territory, missiles or aircraft as potential carriers of nuclear weapons and, therefore, attempts to account for Russia's concessions in START-2 by Ukraine's position are absolutely groundless.

This is, as they say, an attempt to lay the blame on someone else.

The author of the aforementioned "military bulletin" knows better than specialists in Ukraine that there can be no talk of continued exploitation of the missiles with multiple independently-targetable reentry vehicles [RGCh IN], because their designer—the "Pivdenne" Design Bureau—is responsible for this. At present, it is a "cut-off" trend. An absolutely natural question arises in this connection: "Cut-off" by whom?

The answer to this question may be derived, proceeding from the following two factors. One year ago, Ukrainian President L. Kravchuk signed and passed over to the Russian Federation an agreement on the mutual guarantee of safety in exploiting nuclear weapons on the territory of the CIS, but the document was never adopted.

In October 1991, a group of experts of the Russian Federation made the following proposal in the recommendations to the country's political leadership:

"The number of NIOKRs [Scientific Research and Experimental Design Projects] in the sphere of strategic weapons must be reduced by a factor of 3-4, and starting from the middle of 1992, all such NIOKRs carried out by main

designers outside of Russia must be stopped. This measure must apply, first and foremost, to the "Pivdenne" design bureau and to plants in Dnipropetrovsk and in Pavlohrad in Ukraine" (the genuine text from the aforementioned recommendations by experts).

As commentaries to this, we can refer to the fact that even representatives of the United States repeatedly expressed their understanding of the need to maintain mutual ties between Russia and Ukraine in questions of the manufacture and exploitation of space missile technology.

At the same time, representatives of the Russian Federation agreed to sign an agreement in which one of the political goals is, as is now obvious, the struggle to implement the above recommendation by experts, although no parity is maintained by this agreement.

From the above, the answer to the question formulated in the title is obvious—the content of START-2 was not determined by Ukraine's actions, but rather by actions with regard to Ukraine. If Ukraine may somehow affect the fate of the new treaty, it is through its attitude to START-1.

Arms Control Aide Insists SS-24s Not Covered by START I

*PM1108191793 Moscow IZVESTIYA in Russian
12 Aug 93 First Edition p 2*

[Journalist Irina Pogodina report: "Ukraine Insists on Right To Own Nuclear Weapons"]

[Text] Kiev—K. Hryshchenko, chief of the Ukrainian Foreign Ministry Disarmament and Arms Control Administration, has provided explanations in connection with the Russian Government's statement alleging that Ukraine is "delaying" over resolving the question of ratifying the START I Treaty and other related problems.

He described the Russian Federation Government's statement as an attempt by certain Russian forces to present the Russian Federation as the sole heir to the entire nuclear potential of the former USSR. Hryshchenko refuted claims that the 43d Army is exercising operational control over nuclear weapons on Ukrainian territory. The Joint Command of the CIS Strategic Forces retains operational control—Ukraine still adheres to this position today, although the leadership of the Joint Forces is actually in Moscow and the time has come for those who adopted the decision to create such an organ to reconsider their actual status.

While expressing the wish that the Ukrainian Supreme Soviet should ratify START I more speedily, Grishchenko recalled that this treaty is not about the complete destruction but just the reduction and limitation of nuclear arms and that the SS-24 missiles mentioned in the Russian Government statement do not come under this treaty at all.

Hryshchenko returned once again to a question which has been discussed frequently of late—that of Ukraine's statement on its right to own the nuclear weapons which it has inherited by virtue of historical circumstances. The official Foreign Ministry spokesman emphasized once again the groundlessness of the fears being expressed in this respect, since ownership and possession, in his opinion, are not one

and the same thing. Ownership makes it possible to make an economic profit out of disarmament—which is something Ukraine simply does not have the right to refuse. But possession presupposes operational control over an installation, which, as already stated above, Ukraine has granted to the Joint Command of the CIS Strategic Armed Forces.

Ministry of Foreign Affairs 12 August Briefing

*AU1308131893 Kiev URYADOVYY KURYER
in Ukrainian 12 Aug 93 p 2*

[Unattributed report: "A Briefing at the Ministry of Foreign Affairs"]

[Text] There is much publicity in the press on the fact of Ukraine's Supreme Council's adoption of the Main Trends in Ukraine's External Policy and, in particular, on the statement that, having become, by virtue of historical circumstances, the owner of nuclear weapons inherited from the former USSR, Ukraine will never sanction their deployment and will eliminate the threat of using nuclear weapons from its external policy arsenal. This problem was commented upon by Kostyantyn Hryshchenko, chief of the Ministry of Foreign Affairs Administration for Control Over Armament and Disarmament, at a briefing held by Ukraine's Ministry of Foreign Affairs. This statement, he pointed out, described the actual situation, because, from the juridical point of view, it was determined in the Law on the Economic Independence of the Ukrainian SSR that was adopted in 1990 and in the 1991 Law on Enterprises, Institutions, and Organizations of Union Jurisdiction That Are Situated on the Territory of Ukraine. These laws are based upon the norms of international law regarding state succession and upon the Vienna Convention of 1983. Ukraine, as an owner of nuclear weapons, handed over its right to use them to the Joint Command of the CIS Strategic Forces, provided that they guarantee control over the nonuse of these weapons. "That is why this statement is just a reflection of the actual situation in the document adopted by the Supreme Council and there is no need for the mass media to raise such waves," believes Kostyantyn Hryshchenko. From the legal point of view, he asserted, Russia's unilateral actions cannot be regarded as a legal fact. Therefore, the joint command does exist, although without the chief commander. That is why the situation remains the same as before, more specifically, the strategic weapons and the strategic forces stationed in Ukraine are under the operational command of the CIS Joint Strategic Forces and Ukraine's Ministry of Defense is only in charge of its administrative management.

It was also stated at the briefing that the process of preparations for the meeting between the presidents of Ukraine and Russia are proceeding at the level of experts. The place and time of holding the meeting are being coordinated.

Key Official Talks About Nuclear Issues

Durdynets on START 1, Referendum

*WS2708121593 Kiev KYIVSKA PRAVDA
in Ukrainian 17 Aug 93 p 1,3*

[Interview with Vasyl Durdynets, first deputy chairman of the Ukrainian Supreme Council, by UKRINFORM correspondent M.Melnyk: "Having Taken One's Destiny In One's Own Hands"]

[Text] **Melnyk:** Two years ago, Ukraine made its historical choice. Vasyl Vasylovych, how would you describe the course of the state-building? What has been accomplished during that time, what difficulties and challenges have had to have been overcome?

Durdynets: I believe that the most important achievement of this historically short period is that Ukraine, a state with roots going back to the Kiev Rus, and a country with population over 50 million, finally joined the world society. The world respects us. They want to establish relations with us. Ukraine is recognized by 139 countries. Look how many flags stream over embassies in our capital Kiev.

The biggest European forums listen to the voice of Ukraine. Ukraine has become a member of the CSCE, Black Sea Economic Cooperation Community, and an associate member of the North Atlantic Assembly.

Ukraine has already developed the attributes of statehood including its own Armed Forces.

As for the difficulties, we do have them like any other country. True independence does not come easily. The situation is complicated by the fact that along with building our own state, we are transforming into new social and economic relations. This is generating political adversities and delaying the building process.

We are not denying that we face many acute problems today. Nobody is going to solve them for us. On the eve of the second anniversary of independence, we hope that our people and the foreign community regard these difficulties as temporary and as ones we can overcome.

Melnyk: What has been done to stabilize the economy and to begin its recovery from the deep crisis? What, do you think, does the path to success look like?

Durdynets: The Ukrainian Supreme Council, as well as the president and the government, attach great importance to this issue. After all, the social security of the people depends on the economic situation.

I must admit that our scientists, specialists, and state officials failed to provide the society with a program of economic reforms that would have met the real abilities of Ukraine, its traditions, and the mentality of the people. Now, the course and consistency of the reforms must be essentially adjusted.

Our goal is a market and socially oriented economy that would meet the demands of the people and be based on its own capabilities. It must take into account economic relations that have developed within the framework of the CIS, and possibilities of western capital investments.

Some important steps have already been made. Having adopted the Property Law, the Supreme Council opened a path to privatization, the main factor in the transition to market relations. Important documents on denationalization and privatization of enterprises, land, and housing, and appropriate legislative acts have been adopted. The commercialization of enterprises and organizations of state trade and public catering has been virtually completed.

The agrarian reform has been accelerated. The number of private farms quadrupled last year and now number 21,000. Of course, there is no doubt that it is not enough. The state will stimulate this process through all available means.

While supporting the development of farming, we will thoroughly assist collective agriculture enterprises that concentrate the main productive forces of the agrarian complex.

Today, peasants and everybody who helps them should be praised. Despite the shortages in technical and material resources, under unfriendly weather conditions, they have managed to grow a good crop and are making all the necessary efforts to protect it from bad weather. It can be said for sure that the country will have enough bread. This will be a gift on Ukrainian Independence Day from all agriculture workers.

To create a well developed economy and live no worse than the foremost countries of the world, we possess considerable material abilities and the necessary intellectual potential. Our people know how to work, too.

Melnyk: But there is a long way to go before reaching such level, and today our people, especially elderly, disabled, and families with many children, are running short of the necessities. Do you think that the Supreme Council did enough to protect these classes of society?

Durdynets: You are right in saying that under economic crisis, price hikes, and inflation, a considerable part of population, in particular its most vulnerable classes, have landed on the brink of poverty. The heart bleeds when you think that a worker, having worked decently all his life and gone through the war and post-war adversities, cannot afford a glass of milk. The Supreme Council will make every possible effort to gratify such people.

The welfare issue is always on our agenda. Over 30 legislative acts have been adopted, among them are those on unemployment, retirement, social protection of the disabled, state protection of families with children, protection of consumer rights, and others. Huge amounts of funds from the Ukrainian budget have been allocated to realize these projects; however, they are still not big enough.

The situation remains extremely complicated. The people expect the Supreme Council, the president, and the government to adopt urgent resolutions that would protect them against the devaluation of wages, and to provide social compensation for growing prices. In connection with this, at the next plenary session of the Supreme Soviet, among other urgent issues like "On Complex Government Activity Program for Stabilization of Financial System and Recovery of Ukrainian Economy" and "On Preparations of National Industrial Complex for Winter", we intend to discuss the status of welfare. When we fight at a Supreme Council session for every karbovanets in the minimum wage, we do not do it on some populist premises, but because we realize the burden of inflation. We are forced to go for that, though we know that welfare spending in our country has already gone beyond budget capabilities. Today, the necessity of adopting a new welfare policy is emphasized.

Melnyk: On the all levels of power, including the highest one, once in a while, a question is put forward: What kind of a country are we building? How would you answer this question?

Durdynets: Ukraine is building a sovereign, democratic, and legally governed state. Principles of its social law will be determined by the Ukrainian constitution. During the course of the nationwide discussion on its draft, 47,000 clear-cut proposals and remarks were delivered. The draft constitution has been submitted to the Supreme Soviet. It includes priorities of human rights, provides legal grounds for civic society, and regulates market relations. The draft provides for equity of all forms of property and enterprises, state structure based on power sharing, and for more local and oblast autonomy. The adoption of the constitution will help create legal state institutions, democratize the population, stabilize social processes, and complete the law reform. We should create in our country a social and economic relations' system that has been examined and adopted by the world civilization.

Melnyk: Recently, there have been many discussions focused on the issue of nuclear weapons located on Ukrainian territory. Opinions differ. There are some who believe that the elimination of nuclear weapons will lead Ukraine to lose its independence. What is your opinion on this issue?

Durdynets: We understand that the world is concerned about the fate of nuclear weapons located on Ukrainian territory, and expects a guarantee of the safe maintenance of such arms. At present, the Supreme Soviet is investigating the ratification of the START I treaty and the Nuclear Arms Nonproliferation Treaty.

Nobody should doubt our decisiveness to pursue the elimination of nuclear weapons. I have already had an opportunity to state that our people, having suffered the Chernobyl nuclear disaster, are not willing to experience another one.

But we would be irresponsible legislators if we did it in a hurry and carelessly, having not taken our national interests into account.

Resolutions that would prohibit further use of recycled uranium and plutonium for military purposes are necessary. The point is that we could use nuclear materials that are our property for peaceful goals. This is very important for our economy.

You should keep in mind that nuclear disarmament can ruin our economy. It will cost even up to 3 billion dollars. Assuming that the elimination of the nuclear weapons deployed on Ukrainian territory strengthens world peace and security, we can expect that the world will help us to do it. It is essential that Ukraine receives guarantees of security in the form of agreements or treaties from other nuclear states. This is neither a bargaining nor a blackmail, as some claim, but a thoroughly weighed and pragmatic approach.

We need the world to support and understand us in our dealing with the issue of ratification of the treaties. This really can become Ukraine's historical contribution to the European and world security.

Melnyk: What could you say about the all-Ukrainian referendum issue?

Durdynets: The Supreme Council has lately received a large number of requests from local councils, people's deputies, executive authorities, civil organizations, political parties and movements, and separate citizens to reconsider its resolution on the referendum. Many believe that 22 billion rubles designated for the referendum can be spent on some different goals instead. There are also doubts about the legal aspect of the resolution.

The Supreme Council Presidium, having pondered the requests from permanent commissions and local authorities, decided to convene, in the third week of August, the seventh session of the Ukrainian Supreme Soviet, and discuss the issues connected with the execution of the all-Ukrainian referendum on confidence or nonconfidence in Ukrainian president and Ukrainian Supreme Soviet. Everything will be made completely clear then.

Melnyk: How will the Independence Day be celebrated this year?

Durdynets: The Supreme Soviet Presidium and the Ukrainian Cabinet of Ministers Presidium have recently adopted a resolution that recommends that local councils and authorities hold solemn meetings with the participation of representatives of workers, civil organizations, political parties and movements, the Armed Forces, the Frontier Guard, and the National Guard, on the Ukrainian Independence Day.

During the solemn gathering in the capital palace Ukraine, I.S.Plyushch, chairman of the Ukrainian Supreme Soviet, will deliver a speech. Other state officials, Ukrainian people's deputies, and representatives of Kiev and the oblast community will be also invited to this meeting.

Concerts will take place on the Independence Square. Theatrical performances will be held on stadiums. They will show traditions and customs of all Ukrainian regions, all ethnic minorities that live on Ukrainian soil. As we know, masses and prayers for Ukraine will be held in churches.

We do not demand any reports from local authorities. We trust their initiative. Like every year, they are preparing various festivities.

So, we invite everybody to participate in that holiday. We hope that it will hearten the process of building our independent state, consolidate the people, and bring some civil solace and respite.

Disarmament Can Lead to Economic Ruin

WS1308114493 Kiev Ukrayinske Radio First Program Network in Ukrainian 1000 GMT 13 Aug 93

[Text] No one should have doubts about Ukraine's resolve to follow the path of nuclear disarmament. At present, the

Supreme Council is examining the ratification of START [not further specified] and nuclear nonproliferation treaties. This was declared by Vasyl Durdynets, first deputy chairman of the Ukrainian Supreme Council, in an interview published in HOLOS UKRAYINY on 13 August. He noted that \$3 billion is required for the destruction of nuclear weapons stationed on the Ukrainian territory. Nuclear disarmament, emphasized Vasyl Durdynets, can totally ruin our state economically. The deputy legislative speaker stressed that Ukraine should receive security guarantees from nuclear countries in the form of an agreement or treaty.

Ukraine's Envoy to U.S. Talks With Ambassador Talbott

WS1308115693 Kiev Ukrayinske Radio First Program Network in Ukrainian 1000 GMT 13 Aug 93

[Text] Oleh Bilous, Ukrainian ambassador extraordinary and plenipotentiary to the United States, met at the State Department with Strobe Talbott, U.S. ambassador at large, at his request. The discussion centered on the further expanding of Ukrainian-U.S. relations in the political and economic spheres. Ambassador Talbott highly praised the recent visits of the Ukrainian defense minister, Kostyantyn Morozov, and the Ukrainian deputy foreign minister, Borys Tarasyuk, to the United States, during which considerable progress was made in reaching a rapprochement in the positions of both countries in the sphere of nuclear disarmament as well as activation of military and defense cooperation and partnership. Oleh Bilous attracted the ambassador's attention to specific problems of Ukraine in dismantling the initial part of SS-19 strategic missiles, and emphasized that the process of dismantling will be conducted according to plan. The American side expressed the readiness to provide tangible financial and technical assistance to Ukraine in order to facilitate the nuclear disarmament process. A considerable part of the conversation at the State Department was devoted to the expansion of economic cooperation between Ukraine and the United States.

Ukraine's Ambassador to Moldova on Control of Weapons

AU1308103393 Chisinau BASAPRESS in English 1853 GMT 12 Aug 93

[Excerpts] Chisinau, BASAPRESS, 12/8/1993—"Moldova has conditions for the fulfillment of national minorities' rights: the approved laws let minorities develop their culture and tradition," stated to BASA Vitaliy Boyko, Ukrainian Extraordinary and Plenipotentiary Ambassador to Chisinau. [passage omitted]

Speaking about the Ukrainian militaries who got control over nuclear rockets, Boyko stated that historically and legally, Ukraine owns these weapons. "Ukraine strives for disarmament and it will abandon its weapons as soon as an official international act grants it security," states Vitaliy Boyko.

Plant Continues Manufacturing Missile Launchers

AU2408123393 Kiev HOLOS UKRAYINY in Ukrainian
21 Aug 93 p 3

[Mykola Nechyporenko report from Dnipropetrovsk: "Who Said That the Launching Has Been Canceled?"]

[Text] Countless times, predictions were made both in Dnipropetrovsk Oblast and outside it to the effect that the Southern Machine Building Plant, together with its design bureau, will soon be ruined and lost, and that only memories of it will remain. "Yesterday, you made missiles, and tomorrow, you will weld kitchen utensils," "jesters" rejoiced maliciously. They assured us that Ukraine was doomed to give up the production of unique products and unique designs and technologies. Well, the manufacture of trolley buses started and the output of tractors increased, so what? They are not the "Zenith" missiles that have no match worldwide. Besides, is it really the wisest way to utilize the powerful scientific-technological potential that is, in fact, priceless?

"Only one thing was true: We were destined to endure difficulties and ordeals that were a hundredfold more trying than in the case of others. Conversion, despite its noble intentions, turned out to be ruthless in reality. We strived and managed—this can already be seen today—to keep up our production potential: the cadres," said the general director of the production association "Southern Machine Building Plant" Yuriy Alekseyev. "Therefore, we have not lost anything that we accumulated and created over many years. This now enables Ukraine to immediately join the list of the world's greatest space powers."

The Southern Machine Building Plant continues manufacturing its unique missile launchers for peaceful purposes—"Zenith" and "Tsiklon" [Cyclone]. However, the main thing, as Yuriy Serhiyovych said, is the unique old project that is presently being fulfilled by the plant and its design bureau: On the joint order of the national space agencies of Ukraine and Russia, the plant is preparing the first artificial satellite of a new series "Ocean" for launching. A new hitherto unknown page in conquering space is being opened....

However, we are now saying this in order to prove that the pessimistic "polemic," more specifically, the threat of degradation, has burst like a soap-bubble. Optimism, which is, hopefully, characteristic of the majority of people in our blessed Ukrainian land, has prevailed. The "Ocean" will, undoubtedly, be launched on time.

Envoy to Bonn Calls For Money for Nuclear Disarmament

AU2008131293 Frankfurt/Main FRANKFURTER
ALLGEMEINE in German 20 Aug 93 p 2

["Sto" report: "Ukraine Demands Money for Nuclear Disarmament"]

[Text] Bonn, 19 August—Ukraine is willing to disarm its nuclear weapons, which it has taken over on its territory, beyond its current obligations, but it needs a lot of financial support from the West for that. Ukrainian Ambassador Piskovoy said on Thursday in Bonn that the disassembly of

10 SS-19 missiles as well as their nuclear warheads had begun at the beginning of August. The overall costs of nuclear disarmament, which he estimated at more than 4 billion German marks, can, however, not be paid by his country because of the considerable economic problems. In addition, the Ukrainian Government "is not to be blamed for having nuclear weapons." In addition to financial support, Kiev also expects security policy guarantees toward the nuclear power Russia in return for nuclear disarmament. In this connection, Piskovoy paid tribute to the chancellor's support of Ukraine at the latest international economic summit in Tokyo. According to him, after the summer recess Ukraine is also hoping for an official statement by the German Bundestag concerning the territorial claims on the Crimea that were recently announced by the Russian Parliament.

Aerospace Cooperation Projects Planned With NASA

LD2908151193 Kiev Radio Ukraine World Service
in Ukrainian 1300 GMT 29 Aug 93

[Text] Ukraine is prepared to implement several large-scale projects together with the U.S. National Aeronautics and Space Administration [NASA]. This was stated by our representative at the latest session of the Committee on the Peaceful Uses of Outer Space convened in New York.

The projects relate, in particular, to using SS-19 and SS-24 strategic missiles deployed on Ukrainian territory for commercial purposes jointly with Americans. With their help, civilian cargo can be launched into space. There also is a proposal to develop and foster aviation and space complexes based on the Mriya-type wide-body aircraft.

Historian Proposes Measures to Eliminate Nuclear Weapons

AU1308101493 Vienna DIE PRESSE in German
13 Aug 93 p 2

[Article by Andrey Kudrayachenko, historian at the Institute for World Economy and International Relations at the Ukrainian Academy of Sciences: "How Ukraine Will be Delivered from Nuclear Weapons"]

[Text] Kiev's basic view has not changed: Ukraine is to become a state without nuclear weapons. Yet what precludes the realization of this desire? As far as the quantity of nuclear weapons that Kiev has inherited from the former Soviet Union is concerned, Ukraine is the third-strongest nuclear power in the world after the United States and Russia. The heritage includes 176 strategic missiles with 1,804 nuclear warheads and nearly 2,000 tactical nuclear weapons.

There is no doubt that Ukraine has not complete control over the problems that are linked with this comprehensive arsenal. The West, however, has so far not shown sufficient understanding for these difficulties and has not been willing to really support Ukraine in the elimination of this problem.

Kiev, in turn, is being accused that it has not yet ratified the START I Treaty, that it has declared the nuclear weapons that it inherited from the USSR to be its property, and that it has not yet taken practical steps to destroy the nuclear arsenal.

As a matter of fact, however, Ukraine handed its approximately 2,000 tactical nuclear weapons over to Russia last year. This year, 10 carrier systems—without nuclear warheads—have been transferred to Russia. In July, Kiev also announced that it will scrap the first SS-19 missiles.

However, the complete removal of the Ukrainian nuclear weapons poses domestic and foreign-policy, economic, financial, technical, and organizational problems. Thus, a total of 20 parties, none of which represents more than 10 percent of the voters, according to a poll, are currently determining Ukrainian policies. The Supreme Council (parliament) was elected when the Communist Party was still in power, and it has not adopted any decision, to this day, that would initiate fundamental social reforms.

External factors add to insecurity among the Ukrainian population: The armed hostilities in the neighboring Republic of Moldova, the dispute with Russia over the Black Sea Fleet and the Crimean peninsula, and the decision of the Moscow parliament to declare the port town of Sevastopol as Russian territory.

Ukraine is still lacking a guarantee of its security and territorial integrity by strong states. This must be seen against the background of the bloody conflicts in the former Yugoslavia and in the trans-Caucasus republics, and the fact

must not be ignored that Ukraine does not stand any chances at the moment of becoming integrated into West European structures.

What prerequisites would be needed for Ukraine to renounce its nuclear weapons? Top priority is certainly to be given to a security guarantee and to guarantees for its territorial integrity. The security interests in this part of Europe are certainly similar to the ones in Central Europe. Moreover, it would be important for the West to endorse new forces and to support Ukraine economically. This help cannot only come from the United States and Russia but from Western Europe, too. The destruction of nuclear weapons entails enormous costs, and the financial funds promised by the United States, so far, are, by far, insufficient for nuclear disarmament. Experts from the United States and from Russia, too, could provide technical aid and help control nuclear disarmament. By the way, utmost priority should be given to the need to establish a partnership on the basis of equal rights with Russia.

Support for Ukraine from outside would enable the country to prevent the next parliament from adopting a decision on the nuclear weapons. I am convinced that adequate Western aid would strengthen the forces in Ukraine that are willing to deliver our country from nuclear weapons.

FINLAND

Russia To Receive Aid To Dismantle Nuclear Arms

LD1908200793 Helsinki Suomen Yleisradio Network
in Finnish 1430 GMT 19 Aug 93

[Text] Finland is to give financial aid to Russia to help it dismantle its nuclear arms. Foreign Ministry Undersecretary of State Jaakko Blomberg says that the dismantling of the Russian nuclear arms can be aided by joining an international science and technology center in Moscow. The aim of the center is to create new scientific projects to employ the nuclear arms scientists of the former Soviet Union. According to Blomberg, Finland will finance environmental projects that are useful from the point of view of the areas near Finland, such as the Kola peninsula. According to Blomberg the nuclear arms which were threatening the Nordic countries have been taken out of operative use in the last few years. Thus the nuclear-arms-free state of the Nordic countries has been achieved as a by-product of the nuclear disarmament program of the superpowers, Blomberg said addressing a seminar on security and environmental problems in Helsinki.

FRANCE

Details of Nuclear Submarine Development Program

LD2208212693

[Editorial Report] Paris France-2 Television Network in French at 1530 GMT 22 August carries a 50-minute special program entitled The Quest for Silence which examines the 10-year long research and design work by French naval architects and engineers on the latest generation of French nuclear powered strategic missile submarines, SSBNs. Reception is good.

The program includes interviews by naval architects, engineers, and navy officers, interspersed with video clips on the history of submarines and on problems associated with the search for silence in the design of the new Le Triomphant class SSBNs.

The program begins with a video clip of various fish and whales with matching sound track illustrating the variety of underwater noises. Next a surfacing submarine is shown as the video fades to a visit to the construction site of the latest French SSBN, at the Cherbourg naval shipyard, with clips of construction work on the turret and the hull.

At 1533 GMT Naval engineer Xavier Marchal of the General Delegation for Weapon Programs/Directorate of Naval Shipbuilding, DGA/DCN, outlines the difficulties of building the prototype of a new type of submarine. The program continues with a clip on the past history of submarine design, including pictures of the current class of French SSBNs.

At 1537 GMT DGA/DCN engineer Gerard Boisrayon explains the difficulties of coordinating design work on a new naval project. At this point DGA/DCN engineer Pierre Quinchon describes the technical experiences in the project.

The program continues with a clip of the hull model undergoing trials followed by video clips of people playing underwater.

At 1540 GMT the captain of the SSBN Le Triomphant, Francois Dupont, explains that contrary to widespread belief, the underwater life is full of noises.

At this point in the program Emmanuel Duval, the director of the strategic submarines program reviews the history to the technical program. He states that the initial ambition was to design a very quiet submarine, a submarine diving noticeably deeper than her predecessors, a submarine equipped with a very high-performance underwater detection system which would allow it to track down potential enemies, particularly submarines which tend to become quieter all the time. Duval continues, stating that the initial objective was to design a submarine which could be upgraded so as to be able to equip it, if necessary in the future, with larger, heavier, more effective ballistic missiles.

At 1547 GMT the captain of the Le Triomphant explains how SSBNs attempt to avoid being detected by using other underwater noises and underwater temperatures layers. At this point there is a clip of satellite detection of submarines.

At 1551 GMT there is a clip of a submerged model submarine with an unidentified engineer explaining the importance of the bow and the need to spread detection equipment along the hull to build up a full array of equipment. At this point there is an explanation of why television crews were prohibited from filming the bow of the submarine, which would have revealed details on the detection capabilities of the submarine.

The program continues at 1554 GMT with an unidentified naval engineer explaining the processing of data gathered by detection equipment. At this point there are clips of various models of hulls undergoing underwater tests while another engineer explains the use of computer aided design in the project. There are some clips of CAD drawings of the submarine. This is followed by an explanation by naval engineer Pierre Quinchon on how the turret was designed to reduce underwater noise.

Quinchon states that the turret was designed on purpose. He says that its narrow shape is to obtain a low noise signature, to limit the disturbance flow of water. He says that the turret is in effect like a blade of a knife in the water. He notes that the design process was difficult, as the design team had to abandon a lot of what they call the retractable instruments: periscope, aerials, and so on.

At 1558 GMT the captain of the Le Triomphant begins an explanation of the shape of the submarine. There are some clips of sample CAD drawings of the propeller and production of propeller model, followed by video clip of a submarine at sea and a model of a submarine being pushed underwater by divers. At this point there is a video clip of work on submarine structures: engineer Marchal provides a voice-over explanation of the decision to suspend all internal structures within the hull.

At 1611 GMT there is a video clip showing the submarine crew training in a simulator at the Toulon submarine school.

The captain of the submarine states that he is looking forward to first trial, followed by video clip of officer visiting his quarters under construction. The special program concludes at with some naval engineers stating that they are looking forward to the first dive.

GERMANY

Bonn Allocates DM31 Million for Russian Nuclear Facilities

*AU1708143293 Frankfurt/Main FRANKFURTER
ALLGEMEINE in German 17 Aug 93 p 9*

["vwd" report: "DM31 Million for Russian Nuclear Facilities"]

[Text] Bonn, 16 August—This year the FRG government has allocated a total of 31 million German marks [DM] for the destruction of nuclear weapons and the improvement of

Russian nuclear plant safety. Of that amount, DM10 million is included in this year's Foreign Ministry budget, to be put aside for the destruction of nuclear weapons. In addition, for the 1993-95 period the FRG Environmental Ministry has paid an annual DM21 million into the EC Technical Aid Fund, from which programs to upgrade the safety of Russian nuclear power plants are financed. Spokesmen for both ministries stated that the money is not going to Russia but to western companies, which provide the Russians with benefits in the form of services. In addition, the FRG Environmental Ministry provides management measures (for instance training courses) for Russian personnel, which are financed from its own budget.

A high-ranking official of the Russian Nuclear Energy Ministry complained last week that the millions promised by the western countries for the destruction of nuclear weapons and making nuclear power plants safer benefit western companies.

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